THE SUPERVISOR

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THE SUPERVISOR
His Relations to Persons and to Work

MARY-CUSHING NILES
and
S. KUMAR JAIN

Adapted and updated from The Office Supervisor,
*3rd edition, by Henry E. Niles, Mary-Cushing Niles,
and James C. Stephens*

With a Foreword by
PETER F. DRUCKER

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Foreword

BY PETER F. DRUCKER

The supervisor is the "front-line" of management, according to an old and familiar saying. But this underplays the importance of the supervisor. To the rank and file employees, the supervisor, in most cases, *is* management. And this is particularly true in developing countries where the employee not only needs to be trained in his job and supervised in his work, but where he needs to be led to responsible membership in the new, the emerging, the industrial society.

And whether in old developed or newly developing country, the supervisor's role is made infinitely more important by technological change. Whether his employees understand this change, whether they are willing to accept it as an opportunity or resist it as a threat, and whether they can make the change productive for themselves, their company and their country, depends very largely on the supervisor, his understanding of his job, his knowledge of his work, and his relationship with the people who work under him.

The supervisor always has three jobs every day. He lays out and organizes the work and its flow. He, therefore, has to understand the work and be technically competent in his area. And it depends on him whether the work of his section contributes to the work of the entire organization or whether it impedes. It is his job always to make sure that the work he manages fits the needs of the whole organization.

Secondly, the supervisor always determines what people can produce and how well they produce. He organizes people. But, above all, he sets their standards and largely establishes the climate of aspirations and self-demands of his work force. He is primarily responsible for the training of his men, primarily responsible for their motivation and for their willingness to improve themselves and their performance. It is the supervisor, above all, who controls productivity. And nowhere is this more relevant than in a developing country where one cannot expect the worker to bring with himself adequate standards and adequate self-demands, but where these have to be set when a man first comes to work.

Finally, the supervisor represents management, is indeed management. His seriousness, his competence, his skill will, therefore, not only determine how well he and his section can perform. They will represent to his work force the seriousness, aspirations, and skill of management altogether. And nothing is more important in the motivation of a work force than respect for the competence, the seriousness, and the skill of the management which, by and large, means their direct supervisor.

Again this is of particular importance in an emerging and developing country.

And then, as has been said before, the supervisor is the key to the ability of an organization to accept change, to use change, and to profit from it.

Change today is particularly important in the office. New equipment may not become prominent in every office equally fast. But office work today everywhere is being thought through again, studied again, and re-structured as the basic technology of office work is being changed by new tools and new machines. A particular office may still be run entirely on yesterday's technology in which even the punch card is almost unheard of and a novelty. After all, when I first started work, just forty years ago, there were still plenty of offices, even in the commercial capitals of Europe, that used goose quills and bound ledgers and were innocent of anything as "new-fangled" as a typewriter. And yet, even the most traditional office today will, in its basic conceptions, in its basic approaches, be affected deeply by the revolution in data processing and in office work that the computer embodies. After all, forty years ago, the extremely archaic goose-quill offices in which I first began to work in England and Germany had to adjust their concepts, and their methods, to the then new technologies of accounting and office procedure even though they clung to yesterday's tools and equipment.

In a country developing as fast as India, the supervisor's task sounds formidable. It can indeed not be done well by "intuition." It is too complex for this. It has to be based on knowledge. To give the supervisor the knowledge he needs to do his job well, to be effective in it, and also to enjoy it, is the purpose of this book. It enables the new supervisor to learn what the job is and how he should organize it. And it enables the old, experienced supervisor to hold his performance and experience up to the mirror which this book in effect provides, and to see easily and fast where and how he can improve himself and his effectiveness and satisfaction.

This is a book, therefore, that every supervisor should read and re-read. It will not make his job entirely unproblematical and easy. Dealing with people is never unproblematical and never easy—and yet it is the supervisor's first and continuing job. But it will make the supervisor's job effective and rewarding. It will help him understand

what he is doing and why. It will show him what he might be doing and how.

But this book is of equal importance to higher management. If the supervisor has to understand his job so as to organize it effectively, higher management has to understand the supervisor's job to enable supervision to do its job well. That supervision is important, most higher managements have learned over the last twenty years. This is perhaps one of the real advances we have made in the art and practice of management in the last decades. But what the supervisor does and should do, what he is and should be, and what support he, therefore, needs from a company's senior management, far too few executives know. Yet, that supervision is effective is as important to their own success and to the success of their enterprise as their own performance in their own senior management jobs. To the work force, let me repeat, the supervisor *is* management; and just as the supervisor therefore largely determines the limit of productivity of the work force, he also largely determines the limit of effectiveness of higher management. Unless higher management understands what the supervisor's job is, it will lack effectiveness itself. It will make the wrong demands on supervision, expect the wrong things.

This book, therefore, should be read by every member of senior management as well.

That this book, after its continuing success since its first publication a generation ago, appears in a new form in India is an important event. This edition embodies not only three decades of the Nileses' experience in several countries. It also embodies experience with the book itself, its contents, its approach, and its application in action by a great many working supervisors in a large variety of situations.

Particularly significant, this volume has been tailored for Indian needs by authors well versed in conditions in many parts of India. Mrs. Niles on numerous journeys has traveled far and wide in India, conferring with managers in public and private enterprise and stimulating management development. Dr. Jain, whom I have watched with interest since as a young engineer he took his doctorate in business administration under my direction, has broad experience in teaching and management consulting in the United States as well as in India. Together they have fashioned a book calculated to fit current requirements. Lastly, The Supervisor is timely, for it is recognized more than ever that the growth in industry, business, and government demands a sharply increased supply of men with practical management skills.

PETER F. DRUCKER

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Contents

Sixth, the increasing pace of change and its effects upon work situations are noteworthy. Mechanization and automation are advancing like a bulldozer, uprooting both procedures and attitudes and sometimes giving people quite a fright. One of the authors has participated in studying the effects of the computer since 1947. Although as yet little affected, India can hardly be insulated against a major world trend like automation. Just as India has an advanced technology for the use of nuclear energy, already numerous establishments are making use of automation and of its specialized form, automatic data processing.

Seventh, the emphasis upon the values of freedom put a spotlight on a free and democratic way of life. This book describes the management process in a way consistent with it. The authors were propelled into this task not only by world events but also especially by their experience in many countries, notably India. They have tested their descriptions against the best practices of leading companies and against the writings of outstanding thinkers in management and in the social sciences.

Much management language comes down from legal and other usage in centuries when there were no particular efforts to behave democratically in ordinary life. Words like obey, order, superior, boss, subordinate, and many others seem to be based on the idea that some men are better than others. Authority, command, and control—yes, and supervision too—were exercised by emperors, kings, dictators, and military officers, many of whom could enforce their will through imposing the death penalty. These persons expected to be obeyed and generally they were. Some colonists in the Americas, however, decided they did not like the divine right of kings and with the help of broad ocean barriers and wild country they made good their rebellion.

Institutions have changed much, but language has changed less. The words taken from early usage sound authoritarian. Under conditions of freedom and mobility the old relations of master and servant are transformed. In most parts of the United States a considerable amount of mobility exists. Often employees leave an enterprise if they do not like the atmosphere. Quite often they leave to take advantage of better opportunities elsewhere. In India also, both freedom and mobility are increasing.

The authors agree with Chester Barnard that the organization is "a system of cooperative activities." More cooperation, and more intelligent cooperation, can be expected when people are treated as participants and partners in a joint undertaking. The results are not only better work but better people and a better society.

At this time in civilization it is worthwhile, in the authors' opinion, for the supervisor and for all executives in business and government to think deeply about the relationships among people in a work environment. With a work week of forty hours—mostly more, sometimes less—the best part of our energies goes into work. How we act, feel, and think at work, has much to do with how we behave as members of the family, the community, the nation, and the community of nations. We really live democracy when we exercise it in our places of work. It is doubtful if we can keep political democracy unless we apply its principles to our economic and business relationships. The rights of freedom of speech and of assembly are not very important unless we also have freedom of thought and freedom of opportunity. So in our business relationships we should encourage thought and cultivate respect for the opinions and personalities of others. We should also develop equal opportunity. This means that promotion and recognition should be based upon merit—on what the person can and does contribute to the organization.

This book makes liberal use of the ideas and phrases in the Niles authors' other writings. Excerpts have been taken from Mary Cushing Niles' *Middle Management*, which describes the role of executives above supervisors but below top managers, and from *The Essence of Management*. The latter, originally written to bring together the best American management thinking for the benefit of India's industrial expansion, has appeared in Japanese translation and in an American edition.

The authors gratefully state their obligation and thanks to many supervisors and other people whose ideas and practices have influenced their thinking and also to the publishers who have given permission for the use of a number of quotations from various authors.

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THE SUPERVISOR'S RESPONSIBILITIES

1. In Relation to Subordinates

Set good example in punctuality, temperament, leadership, neatness, initiative, efficiency, tact, and so forth
Respect the dignity of the individual.
Listen to subordinates' ideas, suggestions, and complaints.
Develop in each worker a feeling of belonging to the team.
Let each person know how well he is doing.
Show your concern for each worker's interests and needs
Maintain self-control.
Study temperament in order to handle people according to individual differences.
Select and place workers carefully
Assign work equitably in accordance with capacity and skill.
Delegate responsibility and authority appropriate to each job.
Explain clearly what the duties are
Train subordinates to do their regular work and see that each person knows what he is doing and why.
Train subordinates for greater responsibility.
Encourage subordinates to take responsibility
Develop good understudies
Develop individuals as far as you can in their work and help them find outside expression for unused capacities
Commend and encourage the individual.
Give credit to those deserving it
Get the confidence of subordinates
Develop harmony, cooperation, and teamwork
Interpret policies of management which affect subordinates
Find out and pass on information which is helpful to employee interest, work performance, and morale.
When employees are concerned about anticipated troubles (or rumors) on such matters as lay-offs, reorganization, new machines, and so forth, do your best to obtain accurate information for them
Develop initiative and interest
Teach them to think out their own problems but to bring you exceptions where they lack experience or guidance
Encourage suggestions for improving the work
When suggestions cannot be acted upon at your level, pass them on to superiors and represent your employees in trying to secure action on sound ideas
Obtain punctuality
Consult employees on all matters affecting their performance, work, future, convenience, comfort, and morale.

Maintain conformance with established rules. policies, and instructions and with standards of good conduct.

Give corrections and reprimands justly and tactfully.

Pass along reprimands from superiors, with guidance, to corrective action.

Settle grievances promptly and locally, if possible.

When grievances cannot be settled at your level, report them to your superior.

Counsel with utmost fairness with subordinates about their personal problems and get further help from personnel office or elsewhere as needed

2. In Relation to Superiors

Accept full responsibility for the work of the section—do not make excuses, or "pass the buck."

Keep superior informed of progress in work but do not bother him unnecessarily.

Learn what he expects of you.

Refer promptly matters requiring his attention.

Report to him on quality of work of subordinates.

Assist superior in his work

Straighten out things not satisfactorily done by superiors—they are human too.

Represent your employees with your superior by bearing in mind their needs and interests

Represent them justly and objectively on grievances and suggestions

Represent them in accordance with their merits on transfers, pay increases, and promotions

Lighten load of superior whenever possible

Try to anticipate what superior needs

Observe the work habits of the superior and respect them

3. In Relation to Associates

Cooperate with other supervisors

Cooperate with staff officers on personnel, organization, planning and control. public relations, and legal work.

Coordinate work with other sections

Try to understand the problems of your colleagues

Accept associates' suggestions and criticism graciously.

Keep associates informed of work and data that affect them.

Defend your unit, praising what is good and giving explanations when needed

Make specialists working under you available to help other sections with their problems

Utilize specialists in other parts of the company to help solve your problems.

Permit interchange of good workers through transfer and promotion

Keep alert to information which associates may give concerning your work, and pass similar information to them.

Learn from the methods associates use in doing their work.

4. In Relation to the Work

Know the work yourself and its requirements.

Plan the work of your section

Anticipate difficulties and delays.

See that equipment is available and in good repair.

See that materials needed are on hand.

Understand what superiors and colleagues want Clear up questions on policies and requests.

Apply policies and directions specific to the situation.

Lay out procedures.

Lay out each job with appropriate tasks, qualification requirements, relationships with others, and standards, utilizing suggestions of others.

Assign and distribute work fairly according to individual capacity, skill, and long-term development needs.

Plan so that there is time to plan.

See that plans are carried out

See that work is done on time, in best possible time, in specified time.

Organize manpower to avoid waste of time and capacity.

Use spare time to best advantage.

Meet and minimize peak loads

See that work runs smoothly, correcting difficulties promptly.

Coordinate work of different parts of the section.

Review reports and data flow for currency and use.

Check work flow for coordination with plans and objectives.

Inspect and check work for quality, quantity, time, and performance.

Analyze work of each employee from time to time and discuss improvements needed or possible.

Train substitutes so that work can be carried on in event of absences.

Handle problem cases.

Keep pace with changing conditions—develop new methods.

Keep up with developments elsewhere through reading and contacts.

Watch for, adapt and adopt new ideas.

The job of the supervisor is obviously a broad one. It will vary with different companies and even among different supervisors in the same company. Check the items on the list which seem to be most important in your own position or organization.

In a small organization, personnel and planning functions are handled almost entirely by supervisors. In a larger company, many such details as conducting tests, maintaining personnel records, planning flow of work among departments, determining proper layout of forms, and devising new systems are specialized and dealt with by personnel and planning departments. Even so, supervisors are concerned directly with personnel functions in their dealing with workers and with the planning and organizing function in their handling of the work. The responsibility of supervisors is not decreased, although it may be eased, by the knowledge, contact, and wisdom of specialists. Only by the cooperation of supervisors, senior and junior, can a thoroughgoing and effective personnel policy be framed, carried out, and improved, or can good planning get the results it should. Therefore, supervisors should have some general knowledge of personnel and planning practices, even though they may never need to become proficient in these fields. Supervisors ought to know something about the nature of supervision and how it affects the productivity and job satisfaction of people. The more specific procedures are well treated in other books; this book will consider the general aspects of supervision.

In many organizations the supervisor is considered a significant part of management. In numerous banks, insurance companies, public utilities, retail establishments, and other organizations, the responsibilities of their supervisors are clearly spelled out. In many of them, supervisory training is also given. Some organizations have not defined exactly what the supervisors should do. Opportunities are thus afforded for unusual work to be handled by exceptionally good supervisors; on the other hand, however, persons whose actions displease the management are sometimes accused of exceeding their authority.

Often a person is told to "take charge" of a particular phase of the work, or sometimes merely to "watch it." If he takes hold too hard, he may be accused of grabbing more than he is supposed to, whereas if he does not go far enough the management may decide that he does not take responsibility and that he is poor supervisory material.

If you are in a position where your authority is not clear, see whether you can get it more exactly defined. You may make an outline of your duties and get it approved by your superior. However, even though you may not be able to define your own duties satisfactorily, you can at least be definite with those under your supervision. Be quite specific

in giving responsibility, especially at first.

This is what a man told the authors many months after he had been given informal responsibilities for certain work done by himself and two others

"Mr Wadia told me to keep an eye on how the notices were being corrected and filed I go over and I see Arora and I ask him how he is getting along and whether his corrections are up-to-date. He says, 'That's not your work. What are you asking me for? You mind your business and I'll mind mine—and then he is likely to be nasty to me for a day or two I just decided it was easier to let things go and be on good terms with the men unless they get terribly behind.

"If the chief wants to check up on them I'll let him do it But he isn't checking on Arora He has all sorts of places where he puts the work so Mr. Wadia can't see it—in various drawers of his own desk and in the file—and then at the end of the month it's discovered he hasn't done it And I get a calling down because it isn't ready to be mailed, and several of us have to stay overtime and finish it up

"You know when you are just told to keep an eye on a thing you don't have the authority to see that it's done, but you get the blame if it isn't. And if the men do their work right it's to their credit and not yours."

Indefiniteness in assigning and announcing responsibilities is a common source of friction, misunderstanding, and ineffective work. It is not always necessary to list every responsibility, but it is essential for the person himself and those he is to supervise to recognize his supervisory position. At times one may wish to avoid putting a certain person in charge and yet desire his advice on the work. If he is told to "keep an eye on it," care should be taken to avoid putting him in a situation where his loyalty to his fellow workers will be in conflict with loyalty to his chief. He should not be held responsible if he has not received commensurate authority. Clarity in defining major responsibilities is usually more important than that the definitions be logically the best.

Many persons pride themselves on their ability to meet emergencies. A wiser course is to prepare in advance for any unusual conditions which can be foreseen. Similarly, one should not be proud of finding many mistakes in the work of clerks, or of being experienced in straightening out difficulties in one's own department. The more valuable quality is being able to prevent mistakes and difficulties from arising. How good you are at bossing is not so important as how little bossing you have to do because your staff is trained and the work is properly organized.

A junior supervisor may have to do a considerable amount of routine

individual work, but he should try to delegate work to others and make time for constructive planning and handling complicated cases. Many executives complain that their assistants keep too much detail. The supervisor sometimes hesitates to delegate work to someone who will do it less rapidly and not so well as he could. However, he can rise and the employees can develop only by delegation. He must therefore train a person to do as well as he himself can, or perhaps even better.

The supervisor should be held responsible for any errors made by his subordinates. Since the supervisor cannot check all the work done in his department, he has to assume responsibility for mistakes he never saw. He should see that his subordinates are so trained and the work so checked that unsatisfactory work is reduced to a negligible amount in quantity and importance.

Supervisory responsibilities are so broad that to bear them properly demands a person with a considerable range of talents. Particular attention needs to be paid to problems of human relations, and perhaps the chief problem is to learn to adjust to the particular managerial group with which one is working. If one does not feel adapted to supervisory work, it is better to face this fact early in one's career. There are excellent specialized jobs that require little or no supervisory work. On the other hand, the person who is interested in supervision and who shows a talent for it may well hope by developing his ability to gain more important posts. There is a great need for supervisors of real competence.

THE CHALLENGE TO A SUPERVISOR

The supervisor has a very important national role to play in the national economic development scene.

The greatest weakness hampering progress in this country is not so much the lack of trained personnel (which no doubt is there), but the inability of the controllers to bring up their charges in such a manner that even when the key individual retires, the organization moves on with a momentum of its own With some truth it can be said that in this country there is too much of dependence on a few individuals and too little on the organization as such

H C. Ganguli *Structure and Processes of Organization* Asia Publishing Company, Bombay. 1964 page viii

In the correction of such a situation, the supervisor is going to be the key person, not only in terms of his own development but also in terms of developing his own subordinates so that they will be rapidly

able to improve their performances, capabilities, and skills and be able to move up in the organization to handle bigger and better jobs and responsibilities. The development of skills, competence, vision, and performance in each individual supervisor is the basic focus of organizational growth and development.

Each supervisor has a big challenge to make work meaningful, interesting, and productive. To do this he needs to understand his job, his organization, and the people with whom he works. He gains a knowledge of the company, its organization, policies, and requirements mostly from his daily contacts with his superiors and associates. They are his teachers and sources of information. In many respects these relations determine the kind of supervisor he becomes. Without knowing objectives and purposes, reasons why the work is done, degree of accuracy and standards expected, he cannot supervise effectively.

The supervisor's job is more than giving out the work and following up to see that it is done. He must make each task assigned worthwhile, encourage workers' ideas, and help make their work a satisfying experience. He must also meet production goals. He cannot be effective if he does not show genuine interest in his subordinates. Gaining understanding of individual potentialities, capacities, interests, likes, dislikes, and feelings toward the work is the heart of supervision. His job is people. His challenge is to help each person release the creative power within himself. Inspiring people to do more than they think possible is the art of supervision.

The Basis

of

Dealing with People

Good leadership requires careful penetrative thinking and, in addition, absolute self-control.

The man-maker believes in people "by and large," searches out the strong points in every individual, and provides incentive for their translation into economic value.

These three traits: interest in and affection for people, power of personality, and a scientific trend of mind, may be said to be the outstanding requirements of executive success

Erwin H Schell, *The Technique of Executive Control.* copyright McGraw-Hill Book Company 1950. pages 8, 16, and 18, by permission

Everyone wants in some degree both a clear sense of direction in his work assignment and the freedom to use his own talents, to exercise judgment and responsibility so that he may grow in competence and usefulness. He expects the leader to contribute vision and decisiveness, and at the same time to make effective use of the resources of his organization. He wants to believe in the essential worth of every person irrespective of organizational status, yet recognizes that the work imposes different roles on the leader and the led

O A. Ohmann "The Leader and the Led." *Personnel,* November-December 1958, page 13

PERSONALITY DIFFERENCES·

When a man or woman is put in charge of a group of workers, he is faced with fundamental business relationships with his superiors, with his colleagues, and with his subordinates. To deal with them successfully, he should possess or acquire a sympathy with and an understanding of persons as individual personalities; a knowledge of how mental and emotional processes function, both in individuals and in groups; an actual or potential ability to get along with people; and finally, action patterns·which translate his inner feelings and knowledge into effective action.

Many persons, successful in their dealings with others, have never analyzed their knowledge or activities, but they have spontaneously conducted themselves in an appropriate manner. However, only a gifted few know instinctively how to deal with others. Fortunately those with ordinary endowments of feeling and intelligence can go far to develop in themselves the capacities for effective human relations. Modern psychology has made many helps available. The psychology of handling children often applies to adults as well. Parents will do well to observe the methods by which they obtain (or fail to obtain) their way with their children, since adult temperaments operate in a similar but more complex way. Psychological knowledge and observation, however, must be seasoned with common sense.

A·little girl about seven years old was taken to see a psychiatrist She was asked many. questions beginning with, "What is your name? Your age?" and then, "Are you a little boy or a little girl?"

She said, with a most solemn face, "I am a little boy."

At the end of the interview the psychiatrist said to the mother, "Your child appears to be perfectly normal except for the fact that she said she was a little boy You know that is a very serious thing and you must do everything you can to make her happy about being a girl because it is very important for her after-life for her not to want to be a boy."

On the way home in the automobile the mother said, "Why did you say you were a boy?"

The little girl replied, "Aw, if a person asks you a dumb question you've a right to give a dumb answer."

The study of human relations has not yet become a science, but it has been an art for many centuries. The best way to learn how to lead and how to adjust is to follow the best examples in your experience and reading. Conscious analysis of good methods of dealing with

people will be far more useful than the unconscious imitation into which we often fall.

The experience of others and the study of available literature will be helpful, but will probably not reveal any infallible rules of conduct. The very complexity of any one person's nature and the wide variations among people indicate exceptions to most rules. Nevertheless, rules of what to do may be useful—and, even more so, rules of what not to do. If you find that a rule did not work in a particular case, do not be too quick in discarding it as a bad rule. Analyze the situation to see if there were not factors which might have led you to see in advance that it was not applicable in this case. Think how much easier it would be to develop rules for losing friends than for gaining one friend.

.It is important to realize that human beings are not alike. A man from Mars might think all men were black if he studied human biology only in Central Africa, but difference in skin color is far easier to distinguish than such psychological types as the extrovert, or man of action, and the introvert, or man of thought. Moreover, these two types blend gradually into each other so that one must study the individual temperament and habits of mind of the person with whom one is dealing.

The difference in outlook between different types of persons is well illustrated by an incident in the imaginative book, *The Sacred Giraffe* The story gives an interview between two women, Suavela, the prime ministress, who was a practical politician, and the leader of a deputation of women who came to see her about extending public education Suavela rejected the deputation's plea and in answer to a charge of inconsistency said·

"You are, I see, an intellectual woman. You therefore subordinate your actions to your ideas. Until you have come to a definite opinion on a given point, your action on this point remains undecided When you know what you think, you know how to act. If your course of thought changes, your actions change. And you call that, and rightly so, consistency Very well. I am a woman of action And I subordinate my ideas to my actions As long as my course of action is undecided, my opinions are unsettled When my course of action is set, my opinions become clear. When I know how to act, I know what to think. When my course of action changes, I immediately alter my opinion And I call that consistency "

Salvador de Madariaga. *The Sacred Giraffe* Harper and Brothers. 1925. pages 239–240

A person is not always consistent within himself. His feelings, beliefs, and conduct are under constant slight change, in response to his experience and contacts. He tends to emphasize certain aspects of himself, certain relationships, and certain goals. He seeks the fulfillment, security, and expression of his personality through experience.

He wants the respect and approval of his fellows, health, control over his own affairs, understanding, an opportunity to show what he can do, and a wholeness within himself and in relation to the world.

The individual is well-adjusted when his needs are being satisfied to a reasonable degree and with no great amount of conflict among different desires and motives. When his basic needs are blocked, he tends to use indirect means to satisfy those needs.

People may react in diametrically opposite ways to the same apparent stimulation or circumstance.

One man says· "It's not to my credit that I never drink. My father was a drunkard and I had a terrible example before me in my youth." Another man says· "You can't blame me for getting drunk frequently. When I was a boy my father was always drunk." The first reacts positively, the second negatively, to similar factors of heredity and environment.

Most of us are so full of what we want that we do not stop to inquire what are the wishes and the rights of others, and·therefore we stir up friction. Studying the reactions of other people will save you much time and energy, and show you how to approach them. Moreover, if you stress their good qualities in your own mind, you will not object so much to their faults, and you can make a better contact.

Some people have the capacity of seeing good and interesting sides in everyone. Others dislike most people they meet, and still others are mainly bored. Some dislikes are based upon certain definite factors, such as disapproval of a person's morals, or of his manner of talking or dressing; others are just general dislikes without any definite conscious cause. Often minor dislikes are overcome when one sees that the person really has high standards of fairness and honesty, even though expressed in a manner different from one's own.

It is important not to let personal dislikes and grudges affect business activities. "Two horses pulling against each other cannot go as far as one donkey alone."

ROLES

You have probably noted that some people behave differently in various situations. For instance, a man behaves quite differently as father of a family of children than he does as a clerk in an office. Have you ever watched a child acting out a role in which he is regarding himself as an adult? A *role* is a pattern of social behavior which seems appropriate to the individual in a situation in relation to the demands and expectations of his group.

Much social learning takes place through the roles which are either ascribed to us or which we try out and possibly seek to achieve. The role of son or daughter is ascribed to us by our family relationship; the role of scholar is built up by hard work over a prolonged period. One role may require submissive and polite behavior, another may permit more scope for one's own ego. How often we have seen a person submissive toward his boss and arrogant toward his servant or rigidly polite to a subordinate but irritable with a friend!

Many roles are reciprocal, that is, they come in pairs, such as husband and wife, father and son, superior and subordinate. A particular role may do violence to the individual. For example, in an office job he may be expected to curb a natural curiosity and initiative because his superior wishes him to stick to the routine of a task and not ask questions. Sometimes he may be expected to act in a manner that goes against his natural behavior. The wise supervisor will help him combine his personality with the role required by the situation.

The individual tries to use the resources of the group as a means to realize himself. The organization he joins, however, has an opposite tendency, namely, to use its members to forward its own organizational purposes. These purposes are carried out through activities of the individuals.

The two trends meet and collide. The outthrust of the individual to secure his own realization meets the outthrust of the organization to get the individual to serve its ends. The individual seeks to gratify his needs, desires, values, capacities, and modes of thought. He makes an imprint, powerful or slight, on the organization through his conduct and he receives the imprint of the organization, primarily through the tasks and functions which belong to the position he occupies. Thus the formal and informal tasks of the organization combine with acts of the individual.

The role a man plays in the organization affects his personality, and the experience he has within the organization becomes a part of him. His attitudes, sentiments, and understandings develop, change, consolidate, and sometimes disintegrate. His skills, technical and social, become greater or diminish for lack of use. To some extent at least he becomes part of the continuing life of the organization. His influence is exerted for better or for worse in accordance with his organizational role and function and the personal status he acquires.

HOW WE THINK

Not only are individuals different, but the same person will react

differently at various times. If you yourself are always consistent, you are an exception. Most of us are variable, at least in some of our actions. Therefore, be careful not to judge a person from one or two minor instances, which may not reveal his fundamental character at all. When you have only a few contacts with a person, of course you must regard them as of some significance, but they may not provide a true picture. Besides, you may have surmised wrong.

Even with the greatest care, it is hard to draw correct conclusions. It is easy to misunderstand. For instance, it has been said that in a dialogue six persons are present:

Person 1. What you *think* you say.
Person 2. What you *do* say.
Person 3. What the other person thinks *you* say.
Person 4 What the other person thinks *he* says.
Person 5 What the other person *does* say.
Person 6. What you *think* the other person says.

Lawyers find that eyewitnesses disagree as to facts concerning easily observed actions. Differences arise even more readily in regard to the meaning behind words since they are supplemented by looks or intonations which may be more important than the words themselves in revealing the true attitude, and yet are so subtle that they are hard to catch and interpret.

Generally our processes of thinking are more comparable than our emotional reactions; and yet some people jump to conclusions, whereas others deliberate carefully.

Four fundamental stages in thinking, as for instance, drawing a scientific conclusion, are stated by Graham Wallas and adapted as follows:

First is *preparation*, the stage in which one analyzes the problem and secures all the information possible, or apparently necessary, on the subject. The facts are gone over carefully with a view to seeing the elements of the problem to be solved. The second stage is *incubation*. In this, one turns over the facts in one's mind, sometimes consciously, usually subconsciously. The period of incubation may last but a few minutes or it may last several days or several weeks. Stage three, *illumination*, occurs when suddenly one thinks he sees the solution to the problem. It is as though a light were suddenly turned on in a dark room. In stage four, *verification*, one consciously tests the apparent solution, which perhaps is not sound. In that case, one may need further preparation, or merely further incubation, before securing the satis-

factory answer.

A realization of the role of these four steps in reaching business decisions will help in dealing with others. It may also serve to show why what one thinks to be an excellent idea may not appeal immediately to someone else. The authors have repeatedly seen a person credited with a suggestion which really had been made several times before. Making the initial suggestion is preparatory, and the period between the times when it is repeated is often spent in unconscious incubation of the idea. The first person who makes the suggestion is often greeted with the statement that it is impossible; the next person is told that it probably won't work; the third is often praised for having a fine *new* idea.

SIGNIFICANCE OF BELIEFS

Differences in personality, role, and mode of thinking are not the only variations in the situation. We also have varieties of belief, sentiment, and custom. Beliefs, and the attitudes based upon them, are an important foundation of conduct in the work place.

All people everywhere have systems of belief which range from the deeply ingrained to the superficial The deeply ingrained systems of belief are fundamental assumptions regarding values, man's place in life, the nature of the world and the nature of the supernatural Although influenced by observation and reason they are profoundly emotional rather than intellectual, are felt with certainty rather than thought through, and are acquired from other people by example and the pressure of general opinion rather than by argument and direct persuasion. Some are so basic that they are never completely expressed in words but taken for granted and some have connections running down below the level of consciousness. In systems of belief grow the roots of human motive and security, the sense of protection in the storms of the world, the capacities to do things and create things.

The superficial systems of belief are opinions and attitudes which, while anchored to the deeply ingrained beliefs, are more easily modified by immediate experience and by reasoning. Like blades of grass, they blow this way and that in the winds of circumstances, but do not readily let go of their roots.

Between the deeply ingrained systems of belief and those that are superficial are many shades of intensity dealing with many different topics such as right and wrong, law and order, earning a living, preserving health, or the practice of religion.

An important characteristic of belief systems is the fact that a single community, and even one individual, commonly harbors beliefs that are

incompatible with each other by standards of reason. Circumstances can create clashes between these systems, either within individuals or within a community, but the remarkable thing is the frequency with which people simply retain their contradictory beliefs without feeling any necessity to bring them into an orderly relationship

Alexander H Leighton. *Human Relations in a Changing World,* E. P Dutton and Company, 1949, pages 288–289

Beliefs become extremely important in connection with change. A supervisor who is contemplating making a change should consider carefully what beliefs of his employees may be affected.

The Organization
and
the Work Group

Organization is . . the process of so combining the work which individuals and groups have to perform with the faculties necessary for its execution that the duties so formed provide the best channels for efficient, systematic, positive and coordinated application of the available effort.

Oliver Sheldon, *The Philosophy of Management* London, Sir Isaac Pitman and Sons, Ltd, 1923 page 32.

Working with, for, and through people is the way in which a manager accomplishes his job Maintaining good human relations is a manager's responsibility. Providing human satisfactions from work output and relationships is a manager's obligation . . .

There is more and more evidence of growing appreciation that an employee is both an individual and a member of a group These two relationships require a certain balance Neither replaces the other This is stated by another executive this way: "The greatest advance in personnel administration recently has been the emergence of the concept of the integrity and dignity of the individual and consideration of the best ways in which to see to it that the individual, as a member of a cooperative team, is appropriately motivated through the activities of his line superiors."

Laurence A. Appley, *Management in Action*, American Management Association, 1956, pages 17 and 374

The supervisor's place in the organization is the subject of the next three chapters. How is he related to other people in the organization? Before we can give good answers, we need to look at organization itself and particularly at the normal unit of organization, the work group. Let us admit at the outset that normally the supervisor is the head of a work group or of several work groups. Later we shall discuss what the organization requires of the supervisor. We begin with a brief outline of organization and how it is spilt into functions and levels.

ORGANIZATION IN OUTLINE

An organization comes into being to accomplish one or more objectives which can be achieved better by a group of people than by individuals working alone. In the words of Chester Barnard, it is a "system of cooperative activities." The job of management is to achieve the objectives with the available resources. Important among these resources are the people who make up the organization.

Sometimes people join the organization because they are keenly interested in the objective. Ordinarily, however, they join to meet their need to earn a living at suitable work. If they are to work with a will, their individual needs and desires must be met to a considerable degree. When the individuals have that will, they are said to have good morale, and they pull together persistently for a common purpose.

Naturally the efforts of the different people need to be arranged in an orderly way so that various actions will be effective. Activities are divided into functions and tasks.

When there is good organization, the different activities are well arranged by division, section, and individual. Improper organization produces inefficiency and confusion.

One survey in India in 1965 concluded that 10 out of 11 organizations had developed organization charts.

These charts were developed on arbitrary basis and without considering the interrelationships among the various jobs (except in one industry in the private undertaking), and thus instead of solving management problems they created confusions in managerial functions.

N. R Chatterjee, *A Study of Some Problems in Indian Industry*, An Opinion Survey, 1965, Department of Business Management and Industrial Administration, University of Delhi, Delhi, page 5

In an effective organization, the network of communication binds the various activities together.

Information on any change which affects others is rapidly passed

along the communication lines. People make plans to adjust to the changes. They arrive at decisions. They carry out these decisions, observe the results, and gather facts for further plans. They develop standards of performance and control the results.

These various management activities are described by a large number of terms in this book and in common usage, such as organization, objective, morale, structure, function, communication, planning, execution, control, research, standard, supervision, direction, management, and administration.

FUNCTIONS AND LEVELS

The supervisor's place is largely determined for him within the general framework of his department or division. He will do well to study his relationships to the organization. He may have available an organization chart, or he may draw a rough one for himself.

Organizational activities often vary with the type of business, the products made or handled, the territory for marketing, the process and equipment used, the relations with customers, and so forth.

As an organization grows in size, the different functions are defined and allocated to individuals or units. Thus separate units do the producing, selling, accounting, and whatever else needs to be done. In larger organizations, several units with highly specialized functions may be clustered into major functions. Usually each of these major clusters is headed by a person in *top management.*

The top management group is composed of the board of directors, including the managing director and directors of major functions. They deal with the public and the outside community and are normally concerned with the broad policies by which the company meets its opportunities and obligations

The *middle management* level is composed of the persons who report immediately to top management but who are themselves concerned with a particular function. The top management director may be in charge of sales and distribution, but he may have one or more middle managers in charge of functions such as market research and the field sales force. The head of advertising, for example, may be a member of middle management or he may report to such a person.

The persons in charge of the work of others who report to middle management are *supervisors.* Collectively, they compose one or more levels of *supervision.* An organization of medium or smaller size may have only one level of supervision. In that case, each supervisor would report to a member of middle management. In a large organization there may

be several levels of supervision.

CLEAR ALLOCATION OF RESPONSIBILITIES

Organizational effectiveness is greatly increased when there is clear-cut allocation of tasks to individuals. Thus people can be developed to do a task well, action can be taken readily, and praise and criticism appropriately given, For each job, it is desirable to set forth:

1. JOB DUTIES. Each job is a combination of tasks which can be effectively performed by one individual.

2. QUALIFICATION REQUIREMENTS. These are set for each job in terms of skill, intelligence, and personality characteristics required of an individual in order to do the job satisfactorily.

3. JOB RELATIONSHIPS. These include the positions to which his position reports or which report to his position and the positions with which the holder is frequently called upon to cooperate.

4. LIMITS OF RESPONSIBILITY AND DISCRETION. Every individual in an organization must work within certain limitations of responsibility and decision. For example, the individual may work "under close supervision with little latitude for discretion." Work can be handled better and more speedily when the limits of responsibility are clear. Any exceptions may then be referred to the supervisor or other appropriate person.

5. STANDARDS OF PERFORMANCE. These set forth the requirements for work in quantity, quality, time, and interaction with others.

In summary, if a person is to put forth his effort efficiently and willingly, he must know what he is supposed to do, for what end, with whom, when, and how. A recital of these items shows how far the average establishment still has to go to satisfy the needs of the worker for adequate information about his job.

SOCIAL RELATIONS IN THE WORK GROUP

Important as the mentioned points are, there is another side to the work group—the social side. *The members share a common environment*—the work place, washrooms, facilities for eating their lunch, and common conditions of hours and leave. Some of the members like each other and are bound by ties of friendship. Others like each other less well and some may not like each other at all. In the work place, differences of personality, customs, and attitudes may cause friction. But all members are *bound together by the work* itself and by the organizational setting. Usually they have certain shared attitudes to-

ward their chief and his chief, toward the organization of which their unit is a part, toward the work itself, and toward their sense of its purpose and value.

Membership in the group includes this *feeling of being a part of the group*. Each individual modifies his behavior to some extent to fit into the group's activities. Membership is recognized not only by the individual himself but also by others. Recognition means more than identifying people as members. It entails emotional reactions, usually sympathy, liking, and affection. This reaction is mutual. When we find response and acceptance, we feel a sense of belonging. When we do not feel accepted, we participate only partially in the group, or we have not fully joined, or we have withdrawn from it to some extent.

Groups are formed and held together to *meet needs* and to *achieve common objectives*. In a work organization most of these objectives existed when the members individually joined, and by joining they have normally given at least tacit acceptance to the goals. Each group develops certain subsidiary objectives such as making a satisfactory showing on the tasks committed to it. The objectives have an important effect upon how the group functions, the composition of its membership, the relationships within the group and outside, and the development of standards of conduct and accomplishment.

We carry out objectives through *activities*. In a work group, most activities will be directed toward achieving the objective, but some take place to satisfy the needs of members or of the group as a whole. In a group we necessarily associate with other members who are connected with us in the same process. Thus practically every activity involves us in *interactions* with others. The more we interact, the more we react with emotions of like or dislike, mutual confidence or distrust, and other *sentiments*.

Among equals, interaction normally builds up friendly feelings. However, if either party irritates the other, interaction creates negative rather than positive sentiment. Those who progressively build up liking, however, feel more and more at ease with one another and express their liking in activities beyond the requirements of the situation. For example, members will tend to help one another and to engage in recreational activities together. These additional activities, in turn, strengthen the sentiment of liking. The reinforcement of friendly sentiment occurs particularly when the group is either successful in achieving its objectives or faced with a common danger. Such experiences fortify the sense of solidarity within the group and intensify the "we feeling." On the other hand, disappointments and annoyances wear down sentiments of liking and build up irritation, thus hastening the

destruction of group feeling.

NORMS

Activities, interactions, and sentiments also work upon one another —the result is group expectations or *norms*. They are the consolidation of the group feelings, expectations, and ideas as to what behavior ought to be, not necessarily what actually is done. Sometimes the norms and the performance coincide;. more often they do not. A norm is a target to shoot at, and cannot be too far off, or it will be given up for a more practicable expectation.

Norm is the word used in sociology; standard is the word in scientific management. A norm, however, arises from the group, whereas a standard is usually set by management. A *standard* is defined as a criterion of performance, established as a result of careful investigation and representing the present stage in the development of the art.

Norms arise out of the need of the group to find acceptable ways of attaining its objectives. The members evolve certain beliefs and methods in relation to their surroundings. These norms create a pressure toward conformity. The group backs up its beliefs by providing punishments for nonconformity, such as loss of group standing, ridicule, or expulsion. Workers in factories and offices usually observe group norms more carefully than they observe production standards set by management.

RANKING AND LEADERSHIP

The simple pattern of liking is complicated by ranking, that is, the evaluation that the group gives to its members. The person who is felt to live up more fully to the norms of the group is also felt to be superior, that is, he ranks higher. The higher his rank, the greater are his interactions with .the members and usually the wider is the range of his interactions with the broader group in which his own group is situated. He takes the initiative more often. He becomes the center of a web of interactions. This is a characteristic of leadership.

As originator of action, the *leader* is no longer an equal in the group. As he consolidates his position, a growing "social distance" separates him from the members. He tends to set the pace and his wishes tend to be followed. If he has demonstrated his leadership to the satisfaction of the group, he is the person who represents to the members their own feelings as to what should be done. The successful leader has the strengths which meet the expectations of the members. The leader gives orders—

group members comply. The leader, although stronger than the individual member, is weaker than the group as a whole. The process of the emergence of the leader can be noted in informal groups and gangs of various sorts as well as in the work group. Moreover, even in spontaneously formed gangs, the leadership tends to take on the pyramidal form so well known in the usual organization chart. This pyramid of leadership is observed in all types of organizations—economic, political, military, and religious. The leader of a group is himself a follower of a leader of higher rank, and so on up the line.

A situation of conflict develops when the *appointed leader, the supervisor,* does not meet the group's expectations and when there is present a natural or informal leader who does. This is especially so when the informal leader represents the point of view of the union, where one exists. That view may differ from that of management.

The Function
of
Supervision

Leadership is now described as a function which is required when in-
dividuals are coordinating their efforts towards a common goal.

Ray M Jackson, "The Effect of Changing the Leadership of Small Groups," *Human Relations,* February 1953, page 25

Another major challenge . . . is . . to lead by persuasion rather than
command

The manager's work is to lead others by drawing out their ideas, their
special knowledge, and their efforts.   Since self-discipline rather than boss-
discipline is the hall mark of decentralized organization, the manager resorts
to command only in emergencies where he must admit temporary failure to
make the situation and the necessary course of action self-evident.   To the
degree that the contributions of every individual are made voluntarily and
are self-disciplined, the manager is leading by persuasion rather than com-
mand.

Ralph   J   Cordiner, *New Frontiers for Professional Managers,* copyright McGraw-
Hill Book Company 1956, pages 74–75, by permission

In a situation where every person knows his tasks perfectly, would
any supervision be necessary? Yes, we believe so—to take care of changes
and adjustments. New and altered factors in a situation seem to be arising

continually. If each person went off "half-cocked" and made adjustments, business would soon become confused. So adjustments which affect others are usually worked out by specific persons in specific positions. These positions should have means for their holders to observe, gather information, analyze, plan, decide, and communicate the decision to all affected persons. Thus all the people involved can continue working together intelligently.

The wire-drawing department of a sizable company received a large rush order from one of the departments. The tag called for completion without fail on October 23, the eve of Diwali It was then October 11.

The supervisor, Gupta, whistled and turned to his control record He already had orders for three-quarters of normal machine output for the month and this order would be one-half of the month's normal average But then, of course, there was some slack in that average. While October and November are always heavy months, December dips a bit. With some overtime, he might squeeze the order through. He hated, however, to require overtime during the holiday period. Although employees like the extra money, most of them want time off.

What worried him was that several usual reorders had not come through yet Of course, he could refuse to take orders or he could defer the delivery dates But his was a service department and he had actually never refused an order yet.

He had certainly better do some conferring to see what could be done. How about those expected reorders? Two departments had their requisitions ready. The third had considerable stocks on hand, so it was easy to defer delivery until January. He arranged to space out the other two so that no running would be necessary until November and most would be processed in December. He found that orders on hand also could be spaced out a bit.

Next, he went to see the department which wanted the rush order. He found that it could be scaled down. Two-thirds must be ready by October 23, but one-half the balance could be done the following week and the reminder in November. He could work that out with a little overtime on the evening shift.

Gupta reported to his superior what he had done. But he also drew up a draft letter for the superior's signature alerting department heads that wire-drawing work was going to be very tight until first January, and asking that orders be held down until some of the backlog was worked off

This case of practical decision-making shows in simple form some of the ingredients of supervision. An orderly plan could not have been worked out, except by excessive time spent in conference, if each man decided how much should be done on each piece of equipment. The

supervisor made the plan and conferred with customers on their needs and with workers regarding extra shifts and other things which affected them and their personal production.

Supervision is necessary, then, because decisions must be made on what is to be done, how, by whom, and when. Compliance with a plan is needed also; otherwise action would be confused and cooperation would break down. Performance must be analyzed and plans for improvement put into action. Leadership is also needed to sustain cooperation among the various people and to achieve progress toward goals. X:9 9 ?   K 8   9.9u 5u

SUPERVISION AND LEVELS

The supervisor should have a group no larger than he can personally deal with, plan for, and check upon. Normally when a work group outruns this size it is split into two or more groups. Then there arises a need for a coordinator of the several units. His own group consists of the unit supervisors. Each of these serves as a member of two groups, the one each supervises and the group reporting to a common superior. The "pyramid" of supervision is formed in this way. It is repeated upward in the organization. At the top, the chief executive and the senior executives comprise top management.

The duties of the supervisor are specific—localized in place and time. The tasks of a superior are more general the further "up the line" you go. It is easy to transfer a worker from one machine to another. It is much more difficult to secure agreement on a companywide transfer policy. To do that, one must mesh together a large number of needs, desires, and actions.

At each higher level, direction requires a greater degree of capacity. It also requires a willingness to shoulder a heavier load of responsibility for the organization as a whole. Persons exercising these broader functions are accorded authority, recognition, and pay in accordance with the responsibility.

The nearer the top one goes, the more general are most of the orders and decisions. The nearer the bottom, the more necessary is a concrete order. Those with a broad view of the company are quite rightly more general in their orders than those whose work has more limited scope. The director of a large electricity company would not be the proper person to determine exactly where to put the poles for the transmission line between two towns. He might decide that a direct line should be constructed between the two towns and that its capacity should be a certain round figure with provision for doubling the capacity with little

additional outlay. The line would be laid out after competent people had studied the lay of the land. The plan would call for poles to be placed a given distance apart. The leader of the gang digging the holes for the poles would actually place the holes within a foot or so of the distance, if, for example, he finds a water pipe line where he is supposed to dig.

The positions from which directions for action are issued usually gain status or rank. This status helps the process, for a person who gets the instructions can accept them as authentic. Since they come from a proper source, they can be safely acted upon. In turn, the holders of positions of status acquire still further influence. This adds to their powers of persuasion and advice.

REQUIREMENTS FOR DIRECTION

Before anyone can act upon a decision, order, or suggestion given to him, three conditions must be met.

1. *He must understand it.* If he is ordered, "Tovari boya!," which is Turkish for "paint the ceiling," he cannot comply until the meaning becomes clear to him.

If a supervisor tells a clerk, "Check every item of your work", the clerk might put a check mark after every figure he wrote down, thinking that such a mark indicates that he has done the work. Actually, the supervisor may wish him to check his results by doing the work twice on different adding machines.

It is surprising how many times orders are not carried out because their meaning is not clear. In fact, much executive and supervisory work consists in making definite, for a particular department or division, the exact meaning and interpretation to be given to a broad order or policy received from someone elsewhere in the organization.

2. *He must be able to do it.* In order to paint the ceiling, he must have paint, a brush, and a ladder or something to stand upon.

3. *He must be willing to do it,* or at least not actively unwilling.

Direction is effective only when it is communicated, understood, and accepted by the people affected. Acceptance depends to a great extent on the customs of the organization and of other organizations. We don't normally question matters that tie in with what we expect—with our system of beliefs. When people willingly accept a pattern of activity, cooperation is assured. People give more cooperation, and give it more intelligently, when they are treated as partners in the undertaking than as servants to be ordered about.

A young civilian editor submitted to the military colonel in command of a unit a report which he had edited for publication. Some days later the colonel called him to his office and said, "Mr. Nath, this report is not edited in accordance with our style manual You will immediately bring it into accord."

Surprised, Mr. Nath said, "I believe it is correct, sir I checked it carefully. Will you please point out where it is incorrect ?"

The colonel mentioned several places where it was "not in accord with our new style manual."

· "Oh, I didn't know there was a new manual," said Mr. Nath. "Let me know, sir, where I can get a copy and I will gladly bring the report into accord with it."

"The only copy is right on my desk. I can't spare it, so you will just have to do without it. But your report is not acceptable as it is," replied the colonel.

Mr. Nath withdrew. The colonel had "authority" over him, but he wasn't going to try very hard to edit the pile of material awaiting editing on his desk if he was not furnished the right standards Why should he worry ? He would write some personal letters and visit with his office colleagues.

Educating employees as to what their jobs are for, how what they do fits in with the work of others, and why it is needed is an important way of making work easier. Do you realize that when you give the reason for an order, you may be taking the quickest way to make understandable what needs doing? Unless you are understood, your order cannot have "authority" even though you can fire your subordinate for being a blockhead.

DIRECTION AND AUTHORITY

Thoughts such as these have made changes in ideas of "authority." A few decades ago, authority was regarded as the use of power over others, to tell them what to do. The commander who could "boss" people was in demand. In the United States the attitude "Do this because I tell you to" has almost disappeared from business. This shift in emphasis has become part of the American tradition. It was led by a few pioneering businessmen like Chester I. Barnard and Henry Dennison and was expressed by them and by Mary Parker Follett. Now the test of a leader is "not how good he is at bossing but how little bossing he has to do." He is a leader "not bossing his men but serving them" (M.P. Follett). Henry Dennison described both the need for and limitations of bossing :

The necessity of self-direction is one of the most exacting and wearing with which man can be burdened Without a set routine, or freed from the eye of the boss, the strain of the simplest work is increased enormously

Inspiration may drive the artist to works of genius, but the mass of the world's work would be undone or would wear men out in the doing if there were no code or no boss to direct and command. When under self-direction, the strain of the day's work is greater than when under external control of a boss, a routine, or a schedule; and many men who work well under closer guidance fail in positions of greater freedom and are weeded out On the other hand, continuous "direction"—persistent bossing—is one of the great wastes of organization practice. Direction is actually necessary only as new circumstances arise. The boss' energies, in so far as they apply themselves to the group he bosses, should be expended chiefly in keeping up the potential or intensity of group effort.

Henry S Dennison, *Organization Engineering* copyright McGraw-Hill Book Company 1931, pages 47–48 by permission

Orders are now seen to arise from the technical requirements of the work needing to be done, not from the arbitrary whims of the chief nor even from his superior knowledge. The supervisor's position is different in function from the positions of those he supervises. He has to play an exacting role. He has to dovetail a great many activities and needs. Usually he does so under pressure of time and personalities.

In one of the studies on supervision carried out in 1956·in a Government Engineering Factory in Kharagpur, the researcher came to the conclusion that the supervisors ranked as highly desirable (wanted) their suggestions and recommendations in respect of shop activities to be given a certain value.

It was also observed in this study that supervisors did not want overriding powers over their men, but only that they should have adequate authority to get the job done

H C Ganguli, *A Study on Supervision in a Government Engineering Factory*, Indian Institute of Technology, Kharagpur, 1957, pages 23–25

Although certain positions have specific duties of decision-making, the holders of these positions are not necessarily brighter or more deserving than others. Suggestions for improvement arise not from the vested rights of a supervisor or of a planning department but from insight which someone, either a performer or observer, has glimpsed of possibilities for better performance. Sometimes the nonsupervisory expert is required to have knowledge which the supervisor does not need to possess.

A group of planners was asked by their supervisor to go over the descriptions of their own positions and also of the chief of the division.

One of the specialists said, "Aside from the supervisory duties, I think the job of the chief is the same as that of the others."

"Oh, no," a young planner remarked, "he must be smarter and much better qualified than those he supervises."

"I beg to differ on that," said his boss. "It is my experience that he may often be less smart and have less experience too. The point is, he should do certain specific things effectively. He must work out assignments and schedules, coordinate, confer, clear the recommendations, represent the division at higher levels and defend its views, and do a lot of trouble-shooting and chasing around for information The job of the planner is to know what to put in the recommendations so they are practicable and sound in fact and in theory. The job of the chief may be to smooth the path so that the ideas of one of his people, more brilliant than himself, may be adopted."

The idea of *supervision as a function* is relatively new, but it has become a basis for action in the United States and to some degree elsewhere. It fits in with democratic thinking and institutions in countries where the value of the individual is accepted. In such a society, employees in business and in government are free to change employers. Where other job opportunities are available, they quite often leave an employer if they do not like the atmosphere.

The old idea that some people should command and others should obey has had a long history. Most ideas of authority come from an older age. They had their origin long before democratic ideas were formalized, as they notably were in the Constitution of the United States in 1793.

In a modern democratic environment, good managers usually act in close accord with these ideals. However, management language on authority tends to hark back to the old relationship between master and servant. Sometimes the "divine right of kings" still seems alive, when we speak as though those in "authority" were emperors and commanders who could enforce their will, by death if necessary.

The authors of this book have sought to describe the work situation in a way which is consistent with a free and democratic way of life and to get away from the old phrases of authority.

Not very long ago, the chances were that the master was educated but those who worked for him had little or no education. The language of master and servant no longer fittingly describes a relationship where people are educated as they are in the countries of the West and increasingly in India. Most technicians and even office workers have had twelve years of education, many sixteen or more years! Many skilled manual workers need education to read instructions and follow diagrams. Moreover, we perhaps do not really know how much a normal human being can be responsible for and do. We now see many

capacities that formerly were not developed.

It is commonly said that a person should have "authority" to carry out his "responsibility." This applies to all workers though, and not only to the supervisor and other managers. It means that the person is expected and authorized to do what it is agreed he will do or is assigned to do. Authority is one of the things he needs in order to do his job. For example, if his responsibility includes the signing or countersigning of checks, he must be properly accredited so that the bank and others will recognize his signature as valid. To do his job he also must have space, tools, materials, cooperation, and many other things.

To be sure, authority from the legal point of view is rather a complex idea. It signifies that a person has been granted power to do certain things. This grant of power is usually made to the organization by the group whose interests it is designed to serve. In the case of a company, this grant consists of a corporation charter from the community acting through government. It often consists also of agreements with stockholders or others who put up the means for the business. These means may include money, inventions, machinery, materials, other property, talent, and time. Within the grant of powers, the organization may carry out its activities.

Legally speaking, those who receive the grant of power—usually the officers of the corporation—pass on part of their powers to others through "delegation." This is the legal way of saying that the tasks necessary to accomplish results have been assigned to units and persons. In management language, we call this "allocation of duties and responsibilities." Obviously there is no use asking a person to carry out some duties and then withholding the power for him to act.

Frequently, a supervisor thinks that authority is something given to him by his superiors and that it means that those under him must do what he says. The supervisor may have the power to discharge a clerk but he cannot force him to carry out any single order. He can, of course, often create a situation in which carrying out the order may be more pleasant or less objectionable than not carrying it out. Historically, many men have destroyed all authority as to themselves by dying rather than yielding. We have seen this in the independence movement in India and also in situations in Nazi Germany.

The supervisor who helps his staff gain understanding is not only helping them to cooperate but he is building their morale. Explanation and a willingness to answer questions and discuss matters are important. Unless he is open in his communication, the desired action may be carried out incompletely or incorrectly; or it may be effected, but without any enthusiasm. Good organization depends, to a great extent,

upon good communication. Purposes, plans, decisions, and orders flow down and across the organization. Difficulties, ideas, and suggestions flow up and across. An understanding of the purposes of the company and the development of its people to achieve those purposes cannot easily take form without free communication.

SUPERVISION AS REPRESENTATION

The supervisor in carrying out the function of direction represents the company to the workers. When he gets direction from a higher level in the organization, he may take action himself. Often, however, action by his subordinates is necessary. So he must make the direction specific to their needs and make clear what they need to do. He may have to get further information or interpret the requirements and resolve difficulties. Finally, he reports the results to the higher level.

In many cases information, rather than direction, comes to the supervisor. It may be from higher management or from colleagues or from subordinates. If the new information requires action, he will take it or refer the matter to his superior, or make the requirement clear to his subordinates. He is thus the continuing interpreter of what affects the work.

Each supervisor not only represents his superior to his subordinates but also *he has the duty of representing his subordinates' needs, wants, and suggestions to the higher level or levels of management.* This representative, upward-looking side of supervision is not often mentioned, but it is important.

The supervisor's obligation to represent his people grows out of his being the leader of the work group. Representation in regular organization channels is different from any representation the workers may have through the shop steward system of their union. A shop steward, if present, has different responsibilities, for he is liable to represent the interests of the union itself as well as those of the employees. Sometimes these may be in conflict.

The supervisor in carrying out his role as representative of his workers must first heed the needs, wants, and suggestions of those in his own group or below. Naturally he takes action when the subject lies within his own discretion. Even so, he may report the matter as a solved problem. When it is unsolved, he interprets the needs and objectives of those who called the problem to his attention. Most of the matters which come to him are specific. They must very likely be put into general terms for solution at a higher level. Often he must prepare the subject for consideration by finding out if his fellow supervisors have run into the problem too.

"Hawthorne experiments." These were conducted in the United States at the Hawthorne plant of Western Electric Company by Elton Mayo, F.J. Roethlisberger, and other members of the research staff of the Graduate School of Business Administration, Harvard University. The experiments were begun in 1927 and ran for more than a dozen years.

At the beginning the purpose was to determine how physical factors, such as lighting and rest periods, affected workers' productivity on the job. As the study progressed, it became clear that the attitudes of workers toward their jobs had much to do with productivity. The manager or supervisor thus had two separate tasks. On the one hand, he must promote the purposes of the enterprise itself. On the other hand, he must also provide satisfactions for those who serve the organization. These satisfactions depend not only on the conditions of the work and the work place but also on the work group itself. *The feelings the employees have toward their supervisors and fellow workers and the personal satisfactions they get from the experience of working together determine their attitude toward the company and the work.* The codes of the group govern their actions even more than do the rules of management. These feelings and attitudes have to do not only with the relations of individuals in the work place but also in the entire social setting.

The Hawthorne findings tremendously influenced ideas about supervision and management. The crucial role of the supervisor in the productive efficiency and morale of the work group had been recognized previously in World War I. Publication of the Harvard studies based on the Hawthorne data stimulated a great deal of research, discussion, and writing not only in the United States but in many other countries. The eminent British management consultant and writer, Lyndall F. Urwick, among others, propagated the findings over most of the world. Much research has also been undertaken not only in the United States but also in the United Kingdom, the Netherlands, India, and elsewhere. Results are available of American studies in large insurance companies, public utilities, department store chains, and government offices as well as in factories and railroads. The data and conclusions are being published in a constant stream.

You as a supervisor may have a deep interest in these findings. You should bear in mind that some of the research is limited or tentative. Some, on the other hand, is well tested. It would be a mistake to think that conclusions based on one situation are necessarily applicable in greatly different situations. Both caution and common sense are therefore needed.

The heartening thing is that objective investigation of facts on productivity, supervision, and morale does much to confirm the sayings of philosophers, religious leaders, and statesmen. These leaders have held that right ends are attained by right means, that worthwhile objectives are best reached by a high type of conduct. In a democracy we think that it is morally worthwhile to have respect for the dignity and aspirations of human beings and to enable them to have satisfactions in their lives. Now it seems that it pays also in efficiency and profit. The average person who is reasonably well selected and trained for his job can be helped to be an adjusted individual and a loyal and effective member of the team. In so doing, he will usually also reach a high standard of productivity of work.

High productivity and satisfaction on the job tend to go together, according to various research studies. This is not an unfailing correlation. Sometimes morale is high and the personal adjustment of individuals in the group is excellent, but little result comes forth. In many a situation, however, productivity is higher when people are treated as ends in themselves as well as means to ends.

Job satisfaction, of course, is related to the nature of the work—the occupation, the skill level, and the interest in the work content. Some people seem to prefer repetitive work and do not like to make decisions. Normally, however, both productivity and satisfaction are higher when (1) the job requires skill, (2) it permits a variety of activities, and (3) the job, or the way it is supervised, permits the employee to feel that he can make some decisions about how the work is done. A high level of productivity is often a source of satisfaction to an employee, too. With good supervision, also, people not only produce more, but they are also happier.

What is this good supervision? Some of the interesting findings on this question come from the ten-year American study, begun after World War II, on Productivity, Supervision, and Morale, under the leadership of Rensis Likert, Director of the Institute of Social Research, University of Michigan. Good supervision is described by Floyd C. Mann and James Dent in a 1954 report cited in the bibliography. Supervisors were rated on a number of items both by their superiors and their subordinates. Evaluation was made by employees of supervisors who are considered by their superiors as ready for immediate promotion. Such a promotable supervisor is described by his own employees as follows:

1. *He is good at handling people.*
2. *Most employees feel free to discuss important things about their job with him.*

3. *Most employees feel free to discuss personal problems with him.* (This of course does not mean employees like to have supervisors pry into their personal affairs.) The supervisor in discussing personal problems comes to know the employees better. He can understand their reasons for not meeting production goals and fulfilling job responsibilities. Employees in turn see that their boss is interested in them as individuals. They are then motivated to greater effort and take more interest in their work.

4. *He lets employees know where they stand.* The good supervisor evaluates employees informally as a part of the working relationship. Employees know how well they are doing because he keeps them posted.

5. *His employees feel he will stand up for them.* They are confident both of his willingness and ability to represent their interests to others.

6. *They feel that he will try to take care of their complaints.*

7. *He lets the people work pretty much on their own instead of supervising closely.* He does not give employees detailed and frequent instructions that limit their freedom. Rather, he gives general instructions, makes certain that the employees know what has to be done, and allows them to do the work in their own way.

8. *He is apt to hold frequent group discussions.*

9. *His employees see him as "a leader of men," "likable," and "reasonable in what he expects."* Employees do not see the supervisor as a "driver," "bossy," "quick to criticize," or "unnecessarily strict" in dealing with them.

10. *He gives recognition for good work done.* He praises employees sincerely. He keeps his superiors informed of the employees' work, makes notes of recognition in ratings and reports, and makes recommendations for promotions.

Studies were also made of whether supervisors who were rated high felt differently about their superiors than those who were rated low. There were interesting differences. A larger proportion of supervisors rated high than of supervisors rated low say:

1. They feel that their own superiors are good at handling people.

2. When the superior makes changes, they participate in decisions, or make their own decisions.

3. They are satisfied with the way they are brought in when he makes changes.

4. They feel sure that they know how they stand with him.

5. He asks their opinion frequently.

Other studies show that supervisors whose employees have the great-

est job satisfaction feel that their superiors do not make decisions which they should make themselves. The supervisors do not mind getting approval from their superiors. They feel that their authority is sufficient to handle emergency situations. Having confidence in the support of their superiors, the supervisors are able to delegate more work to subordinates. They are able to make normal decisions without fear that their superiors will not back them up.

Supervisors who can influence their superiors and satisfy the needs of subordinates for promotions, recognition, and work-centered benefits are looked upon as better supervisors by employees. They tend to have higher morale in work groups and more satisfaction in their fellow employees in the office. However, a supervisor should not build up expectations in employees for things which he cannot provide. If he does, he will soon have poor morale and less respect from his employees.

Quite evidently it is easier to have the right climate for good work in a situation where a supervisor has a good superior. A supervisor's behavior is conditioned by his own personality and experiences and by the management atmosphere in which he works. He should try to build a productive and happy work group. His task is much easier if his own boss sets that kind of climate. Working in a friendly, permissive, cooperative manner of mutual support and reliance generates good teamwork by all concerned. If your boss is perfect or nearly so, you are most fortunate, but the situation may not last long—if he is so good, he is likely to be promoted soon. If your boss is average, with some faults and many good qualities, your situation is normal. If he is far from good, we are sorry for you, but do not get discouraged, do learn from his mistakes, and do not copy his bad points. Perhaps you can even help him to improve.

The Informal Organization

It is well known that an organization is made up of small groups or "societies," formed by friendship, proximity, type of work, similarity of objectives, etc These individual structures may not coincide with the groupings which have been set up formally The imposition of a formal structure and formal channels of communications—even the mere possibility of a change in the small group and informal relationships—may gravely upset productivity and cooperation For these reasons organization planning should take account of informal organization arrangements.

Ernest Dale, *Planning and Developing the Company Organization Structure* American Management Association, 1952, page 45

Informal organization is the term we apply to the subtle ways or customs in which people actually act together. Although seldom mentioned and often not recognized, it nevertheless is an important element in all kinds of institutions.

In the situation in the office or factory, the activities of the different persons must be geared together. The more complex the processes, the more important the interactions will be. If cooperation is lacking, activities cannot succeed. Yet how often does our thinking on organization deal with the activities only!

The standard books on organization begin with the arrangements of activities, and decisions on how an operation is to be divided into processes and into tasks assigned to different persons. They assume with-

out examination that the interactions will correspond automatically.

Every scheme of activities requires a corresponding set of interactions among the persons concerned. Therefore, the success of the activities depends upon the successful interactions of the group members.

Each small group is a network of relationships. A larger organization is composed of these groups. The actual relationships are not merely those of the organization chart. They include informal relationships among people based on their present and past common bonds, conditions of work, and their own choices. Perhaps individuals went to school together, or live in the same neighbourhood, share the same religious interests, or have common friends. Perhaps they are drawn together by similar points of view or congeniality.

The wise supervisor will note carefully the informal relationships. Especially will he note those who exert special influence on others. There are persons or small subgroups whose friendship and approval are particularly desired by others, because of their position, prestige, or personality. A nod or a smile or a word from one of them may be more important than is apparent.

The extra influence wielded by some persons is not necessarily correlated with their organizational rank. It is common to find in a work group an individual with more than average influence on his companions. He may be a senior workman whose advice, judgment, or sympathy is sought. He may be a relatively new member of the group with some personal magnetism. His expressed dislike may prejudice several others, or his willing "Let's get going" may start the group on a difficult task. He may not be the man with an important title, but he is the one whom others heed. Many supervisors know that if they can get the interested cooperation of this person in making a change, the chances of success are greatly increased. Sometimes he is the heart of the team. Quite possibly he may lack some of the qualifications for advancement to a supervisory position, but management would do well to study him and see if he has, for here is a natural leader.

Another person in the group may be a troublemaker. Probably he is the one who will spread needed information in the group, or else twist information to suit his own prejudices; therefore, the supervisor needs to guard what he says.

Often a troublemaker turns out to be a person whose energies are not being effectively used. He may become very effective if his supervisor finds what he can do and how much, for often he can carry a larger than average load. If he is not promotable, he may be given challenge and responsibility in his current job.

A common example of one manifestation of informal organization is

the "grapevine" or "underground telegraph system" which carries rumors of all degrees of accuracy with surprising rapidity. The grapevine is a major portion of the actual communication system.

The managing director called together the company's office staff of 250 people and said that he had an announcement that would come as a surprise to all but four of the people in the room—a firm of management consultants would begin study of the company's operations the following day. A number of persons in the audience exchanged knowing looks, but none looked surprised. The president wondered why.

Five days earlier the president's secretary had been ill and he had had a substitute. The substitute had left a letter from the consulting firm on the top of a pile on her desk. While she was out of the room a messenger had brought in some more mail. His eye fell on the letter It looked interesting There was no one around so he let his eye run over each line in the letter. Within ten minutes three messengers were spreading the story of the impending visitation of "efficiency experts"—and the story lost nothing in the telling. Washrooms and hallways provided convenient places for distributing the news The elevator men got it promptly and relieved their monotony by joking with many of those who rode with them about what conditions would be like under the efficiency experts

Some of the workers asked their supervisors about the story. The supervisors did not know, but they began to ask each other whether the rumor could be true Finally one of them confirmed it. "Yes," he said, "it must be true The deputy general manager told me last week that I had better get my division into better order because if I didn't he'd be likely to get the devil because the managing director was bringing in some outside experts He told me the thing was supposed to be a secret, but he wanted me to get things into shape right away and so he was telling me then. I wasn't going to spread the story, but it seems to have leaked It's true all right "

The grapevine is a fact which the alert supervisor will recognize. It is useless to wish it did not exist or to try to supress it. At times it may be utilized for spreading information and desired attitudes, although this must be done with care.

An important aspect of informal organization is the congeniality of the work group. Frequently, supervisors prefer to hire persons of similar social and economic backgrounds because they believe that such persons will fit in best with their present staff—in other words, they will be accepted into the informal organization of the office. Sometimes, workers "gang up" against a newcomer who is not acceptable to them for reasons that have no relation to his ability and willingness to do his work. The office is not a club in a formal sense but, the informal or-

ganization has many of the characteristics of a club. Particular care is needed to introduce a stranger with a different background into the group in such a way that he will be accepted.

It is hard to predict the result of trying to get various individuals to cooperate. Two hydrogen atoms plus one oxygen atom combine to give a new substance, water, which has qualities quite different from either of the two gases which form it. Mr. Chandiramani and Mr. Ayar, put to work together, produce—who knows? Fireworks or a steam engine? A certain amount of friction and loss of human energy is inevitable when two or more persons attempt to cooperate. However, even in the most efficient engines the energy lost is much greater than the energy converted into useful work. The steam locomotive has a normal efficiency of less than ten per cent of the heat units contained in the coal.

Science is rapidly getting away from materialism. It is now realized by many that the whole is something more than just the sum of the parts, that the relationship among the parts may give something that is quite new. For instance, if a person put into a pile all the parts of an airplane, he would not have a flying machine. It would be necessary to put them together in their proper relationship to each other. If, after assembly, the plane crashed, there would still be the sum total of the parts, but no plane. An organization is not merely the sum of the various divisions and departments into which it is conventionally divided.

Until the study of man as an individual, of man in groups, and of organizations of all types has gone much further, we shall have great need for the natural leader who seems to know instinctively how to do the right thing in a situation. The fact that the organization principles which we have are not sure guides to building a successful organization should not discourage us. It should challenge us to do our best, to try to see all factors before we act, to reflect upon our acts to see by hindsight to see where we went wrong or where we went right, and to learn from the past as much as we can as a guide to the future.

Group Thinking

Our great capacity is the ability—limited and crude as it is—to work together, to talk things out, to believe in the face of frustration and defeat that together we have creative powers far exceeding the forces of destruction and despair.

And from the individual's point of view, the opportunity to be creative is the basic aim of men. Each of us wants to participate with others in something bigger than ourselves. but, even more, we want to contribute something new and uniquely our own

> Abram T. Collier, "Faith in a Creative Society," *Harvard Business Review,* May-June 1957. page 38.

I am convinced that there is no such thing as the common man. Each of us is an uncommon man. Each of us has some distinctive and individual contribution that he alone can make.

When the professional manager at every echelon of the organization recognizes this, and cherishes it as his most deeply held belief about his fellow men, then he has found the clue to leadership in the American society. It is leadership of this kind that will determine whether the way of freedom will be the way of the world.

> Ralph J Cordiner, *New Frontiers for Professional Managers* copyright McGraw-Hill, Book Company 1956 page 117, by permission

The more an organization grows in size and in complexity, the more important becomes the need for cooperative planning, decision-making, and problem-solving. This has led to a large increase within recent years of staff meetings, committees, working parties, conferences, and small informal get-togethers. This is true in industry, commerce, edu-

cation, voluntary organization, and government.

The purposes of these meetings are to :

1. Gather information.
2. Consult and coordinate.
3. Find a solution to a problem or make a decision.
4. Check the solution or the decision before it is put into effect.
5. Inform those affected by the decision and answer questions about its application.
6. Evaluate result of action.

Not all of these six purposes can be served by a group at one time. A part of the process may be done by one person; part by members of a group acting severally on prepared memoranda; part in face-to-face or telephonic communication between two persons at a time; and part in a group. When people say committees are a waste of time we generally find that (1) all or part of that time has been used on tasks better performed in some other manner; (2) the group has been unproductive for lack of skill (perhaps in the chairman); or (3) some people have been included who were not really concerned or at least not awakened to why they should be concerned.

Meetings or committees may be divided according to their type.

1. Executive

   a *Planning*—for formulating plans, seeking solutions to problems, working out coordinations. The objective is to work out a good and workable plan which will be approved and readily accepted by those who may be called upon to carry it out.
   b *Deciding* or acting committees—usually called executive.
   c. *Controlling*—reviewing results to see if the actions were in line with plans and policies, or why not, and to start the cycle of planning over again by suggestion and improvement. The function of control is usually performed by a person rather than by a group.

2. Judicial

   a *Investigating* to look into something done wrong—such as misconduct—and making a determination as to the facts, regulations, and decision
   b. *Deciding* the case.
   c. Sometimes *arbitrating* a case

3. Advisory

    a *Fact-finding*
    b. Weighing alternative solutions and *reaching a recommendation*
    c *Checking* the conclusion and preparing it for presentation

4. Educational or Training

    a *Information* giving.
    b *Examining* the facts, conclusions, decisions, policies, methods, asking questions, and discussing if necessary.
    c *Practice*

Educational or training groups quite often turn up new ways of handling problems. Our organizational life is full of mixtures of all these mentioned. The thread of gathering facts, weighing alternatives, and seeking a conclusion comes into almost all these group processes.

GROUP METHOD AND CREATIVITY

Discussion is a prominent feature in all groups that are established either to solve a problem or to think it through and learn about the subject. The problem-solving, fact-digesting, participating, thinking, speaking type of group is the most effective for training purposes. It is also the most effective for real learning—to the point where there is a genuine carry-over of the acquired knowledge into changes in attitudes, manner of speech, and behaviour. It is also the best method for planning or advisory committees.

Fruitful discussion is based on the experience, attitude, and competence of the members of the group. In business committees, the members quite commonly represent different departments, functions, or specialities of the organization. Each member therefore normally carries two roles. In one role he has the duty of representing the needs and views of his department or speciality; in the other he has the duty of thinking of the common good and how the different views can be integrated into one view.

It is theoretically possible for each of these views to be passed up the line to an executive who sifts them and comes out with a program. This task when performed by one individual, however, generally lacks the richness of integration that occurs when the people *as a group* with common responsibility come to a consolidated and wise view. In this manner, each specialist gains a view of the whole. Probably he learns new ways in which his tools can serve in the organization. Certainly

he learns that there are others as devoted, intelligent, and industrious as he, each committed to his own particular portion of the design.

In committee, it is important to participate not only with the surface of the mind but also to develop a deep "hearing" quality so that one may perceive what the other person is driving at.

It is partly because we need time to hear innerly that the wise leader often lets silence settle on the group, whereas the inexperienced leader is terrified of a moment's silence and immediately starts talking himself. Have you ever heard a leader call for discussion, and nobody speaks? There is no harm, and often much good, when the chairman just looks expectantly at the group. If the silence is too prolonged, he may fix his eyes on the person known to find words readily, or he may say, "While the members are gathering their thoughts, let me ask a question, or make a comment."

We should set forth our ideas in a group somewhat tentatively, hoping that other group members will seize upon some of them and that we by listening may enlarge our own view and see possibilities which we did not visualize before. Thus our array of facts is enlarged and the possibilities have wider range.

You know that when you are tackling a problem afresh if you have freed yourself from emotional bias, you see all kinds of possibilities and the facts dance before you with different ones contrasting sharply with others. Then the kaleidoscope in your mind presents an appropriate design or two and you either see the solution or you find yourself balancing two or three different ones and later you reach a conclusion.

In a group, there is even more of this contrast and balancing. Group thinking should be richer than individual thinking.

Difference of opinion or view, expression of different needs and requirements is enriching; out of such raw material can be woven a rich pattern. The result aimed at should not be to "get your way" or "sell your solution" but rather to *reach an agreement or integration which satisfies the requirements of the situation.*

This creativity of mind is stimulated by interplay. This interaction becomes group power and effectiveness. At its best, the group does not just fit the pieces together like a series of geometrical triangles and squares. It is more like cross-pollenization: a new plant is created with the hardihood of one breed, the color of another, and the delicate scent of the third. A group at its best not only sifts facts and weighs alternatives, it diligently explores new possibilities and frequently invents solutions which better the ideas, desires, and experience of the participants. Those who have taken part in group creation of a new solution which they feel is better than any of the solutions previously entertained have

had a thrill which makes mere compromise an unsatisfactory thing and victory over another person in argument a mere illusion.

This achievement of integration is indeed "unity in common action." The different stages of agreement go through a series like this:

1. An authority *commands;*
   The group *obeys;*
   The result is *acquiescence.*
2. The leader or teacher *tells;*
   The group or student *accepts;*
   The result is *assent.*

In both these situations, the person of higher status secures the compliance of those of lower status. How much the result is based on status and how much on reason or emotional adherence are not always determinable. When a revered teacher or beloved parent *tells*, the student or child generally *assents* gladly. When a mean little sergeant gives an order, it may well be that the soldier hates even while he is obeying.

3. Equals *debate*
   And give a little here, a little there;
   Each sacrifices;
   The result is *compromise.*
   Compromise seldom pleases anybody.

4. Participants *develop* facts and opinions;
   They *agree* to this and that;
   They wrap up their *agreement* in general terms;
   The result is *consent* and a good deal of *satisfaction.*

5. Participants also *explore* possibilities;
   And *invent* solutions;
   The result is *integration* or *creation;*
   and everybody is pleased—"This is better than I dared hope for."*

To achieve this integration, the different needs must be identified and analyzed, then synthesized.

* These points are adapted from a chart prepared by John J. Hader showing how domination diminishes and group power increases from points 1 to 5. This chart was published in *Handbook of Business Administration,* American Management Association, McGraw-Hill Book Company 1931, page 1680.

In every situation there are:

1. Human factors.
2. Technical factors.
3. Principles, policies and objectives.
4. Time factors.

The work of a committee or working party set up to solve a problem through fact finding and discussion usually follows these stages:

1. Determine objective, method (at least approximately), and the time factor.
2. Survey pertinent facts: laws, regulations, policies, contracts, and pertinent data regarding the situation, such as important attitudes and power to be considered, firmly entrenched views, stumbling blocks, and financial requirements. Experts or those with specific experience of different factors may be needed.
3. Finding possibilities for solution.
4. Arranging facts in the light of possiblities—this usually requires some new facts, and often requires an expert.
5. Weighing alternatives and selecting the best alternative, which usually has characteristics of some of the other solutions offered.
6. When the tentative agreement is reached, checking the solution against the needs, facts, and attitudes of those who must approve, carry out, or otherwise be affected.
7. Making the program for action or recommendation, including time factor and mode of operation or presentation and communication.

It is not enough for a group to arrive at a conclusion it thinks is good without also checking how it would work out. Sometimes a group is much surprised when higher management rejects its recommendations. Often the manner of presenting a conclusion has much to do with its acceptance; for instance, the group may have uncovered facts which the manager would not have available, and therefore the factual presentation may be even more important than the conclusion. Moreover, great care should be taken to think through the consequences of action and obstacles to action. Management's known or previously expressed views may well be one of these obstacles. Many ideas are born in committee which cannot compete in real life. The wise committee does not give those ideas artificial feeding but looks for a huskier baby that can survive under existing conditions.

COMMON DIFFICULTIES

Common difficulties encountered in holding meetings are outlined below.

1. Proper limits are not set to the scope of the committee. The chairman should know why the committee is serving and its exact scope.

2. The problem or issue is not stated clearly at the outset. The chairman should see that this is done.

3. The people who could best contribute are not present.

4. Members are not qualified in knowledge or experience to discuss the matter.

5. People are not prepared on the topic. Relevant information should be gathered together ahead of time, and frequently an outline should be prepared and circulated in advance, especially when the subject is of importance.

6. Some members are indifferent. This is often because of the faulty way the committee is functioning.

7. Some people have fixed ideas or emotional sets.

8. People jump to conclusions before the facts are stated.

9. There is irrelevant discussion, which must be curtailed tactfully.

10. Some do not get a chance to talk. Either the chairman or others may have been dominating. He should seek the participation of all who have something to contribute. Juniors may hesitate to volunteer their views.

11. The self-centered chairman is more interested in his own ideas than in those of the committee.

12. The chairman presents his own views too soon.

13. The chairman does not always properly phrase thought-provoking questions with which to stimulate the group into active participation. He may need to study ways on how to lead a discussion or spend more time in preparation.

14. The group is large for good discussion. "Buzz groups" of five or six persons may bring questions or solutions to the whole group.

15. Politics or ulterior motives affect the committee process. The chairman may require statesmanship.

When one person is in a position to have ideas for the committee to work on, he should prepare them very carefully in advance. They should be presented as a foundation for the action of the committee but with the distinct understanding that the committee is to amend and improve and not simply to accept them.

It is usually well to prepare written agenda of the subject, presenting

the suggested treatment in outline and giving the basic facts. Preferably, the agenda should be sent out ahead of the meeting so that they may be thought over. Otherwise the meeting should begin with a careful summary or agenda which can be quickly read.

Sometimes a committee is called together to pass on a plan already thought out and ready to be put into effect. The purpose of the meeting is fundamentally educational, and less discussion is needed. The object is then to sell the idea and incidentally to gather up points for improvement or objections which should be met. Even here, a discussional tone is better than the use of steam-roller methods. If the will of the planner is to go into effect unchanged, a mere announcement is sufficient. An informational discussion may be appropriate in order to present a chance to bring up points not covered and to avoid misunderstanding.

Except when making announcements, the man who goes through the form of presenting his ideas when no changes will be made is ordinarily wasting the time of the committee. Getting ideas through without change usually indicates either that the committee is incompetent or indifferent. It therefore approves as the simplest way to dispose of the matter.

Sometimes the functions of a working and an educational committee can be combined effectively by appointing the worst offenders on a committee to improve a situation. In a company which was experiencing difficulty in having correspondence answered promptly, those with the worst records were given the job of finding out how improvements might be made.

A large committee is not the proper place in which to decide on details of a program; they should be entrusted to a small committee or to an individual.

The value of a large committee is to bring together all those to be consulted on matters of policy. It can formulate policies and bring out differing points of view. Where the differences are definitely brought into the open, the committee leader should attempt to draw out further ideas which make a bridge between the contrasting ideas. With skill he can usually show that ideas are not so opposed as they appear on the surface. Integration and not compromise should be the solution. Compromise generally satisfies no one, since each leaves feeling that he has given up a valuable part of his own ideas. A committee under proper guidance can usually arrive at a result which individual members feel is better than the ideas with which they themselves started on the subject, because it is richer and represents more diverse experience.

Dealing with Associates

When people associate together in a social enterprise, good morale, a feeling of belonging, is not easy to achieve; its maintenance is the goal of every industrial leader   It is a task which calls for special quality. . which . . . can instruct without ordering about: can correct without nagging; can be firm without being ruthless; can be selective without being arbitrary; can be kind without being weak; can understand without being gullible, the quality in a word which allows a man to boss without being bossy.

It is the quality which in negotiation can ask without demanding, can persuade without insisting; can be light-hearted without levity; can change its mind without vacillation; can compromise without retreating; the quality in a word which allows a man to lead opinion without dictating his will.

> Sir Peter Runge, President, Federation of British Industries, "Management at the Policy Making Level," *The International Management Conference*, 23-27 April 1965, Teheran, Iran, page 258

[Communication] is easiest (1) when objective facts are the subject matter (2) when there is rapid give and take in face-to-face talk between persons who (3) respect each other and (4) have the same general attitude and background of understanding.

> Paul Pigors, *Effective Communication in Industry*, National Association of Manufacturers, 1949, abstract

Even in a small company these days a supervisor finds that he has a number of associates. In a large company or government bureau, they are numerous indeed.

How we behave with our associates is particularly important in a business organization. We do not report to them and they do not report to us. One of us does not tell the other what to do. We associate to-

gether freely, without much regard to relative rank. You *listen* but you do not pay attention unless you wish. You *persuade* if you can. Otherwise they will not do what you think they should.

Thus the things which work among equals—those who do not have to listen to us and who certainly do not have to do what we ask—are likely to be good for us to remember when we want to persuade a superior or a subordinate.

FORMING CROSSWISE RELATIONS

The supervisor's most difficult period is apt to be the time he first assumes his new duties. He is no longer a worker among the workers but is now responsible for the work of his group and for relationships to others. How can he outgrow the feelings, habits, customs, attitudes, and behavior of a worker and become a supervisor? His new associates, fellow supervisors, can assist him in many ways.

A primary task for a supervisor is to be accepted by his fellows. Yet he is usually removed by space and the flow of work from most of them. He meets them, however, in the course of work, when attending staff meetings, conferences, and social functions, and while serving on committees. With them he has many common interests and problems.

When he first becomes known as a new supervisor, his new associates are likely to want to become better acquainted with him. Usually they are glad to explain present relationships and give him background from the past. It is therefore a good idea for him to ask question, thus gaining a first-hand knowledge of how his job fits into the scheme of things, and how his colleagues see their jobs in relation to his. Advice and counsel may be had where information is needed in interpreting procedures, rules, and cases, and in answering inquiries.

Informal chats develop friendly relations. He who wants friends should be sure to show himself friendly. Showing an interest in other people's work and seeking information and sharing it are good ways to indicate concern for the other person, too. These informal and personal interests gradually build assurance and acceptance as part of the management team. Through them a supervisor learns as he goes along the codes, ethics, standards, and customs of management.

Through working closely with his associates, the supervisor gains intimate knowledge of underlying management policies in an organization. For example, how late is late on a deadline? What is acceptable work? Who should review or see certain types of papers? What are acceptable as social obligations, customs, and ethical conduct? Answers to these questions in a company office can only be found through personal

experience in its diverse activities. These unwritten management policies of an organization are threads that create a pattern of conduct expected of all persons who belong. One's associates' experiences, counsel, advice, and suggestions will help to avoid the pitfalls and dangers which are obscure in interpreting company policy.

A supervisor can broaden his understanding and develop deeper insight into his job through reflection upon the experience of others. He strengthens his powers with people by voluntary cooperation and active participation in the life of the organization. An intimate personal conversation with an associate may give an understanding not provided by hours of reading files or studying reports to answer a question or solve a problem. "Personal compatibility" with all associates becomes a strong bond to unite the organization. Being accepted by fellow supervisors as an equal gives him status in dealing with subordinates and superiors. Out of the many formal and informal relations people have in working together the organization structure grows. A supervisor must understand thoroughly this social framework surrounding him if he is to give purpose and meaning to his work. He gains by comparing his ideas with those of people not directly related to his field.

THE SUPERVISOR AND THE SPECIALISTS

A host of new experts and specialists have been created through specialization. Some of these are officers or important staff people who carry responsibility for thinking out problems or furnishing technical advice.

The wise supervisor makes use of specialists and of specialized knowledge, both within his department and in other parts of the company. He consults the legal department on matters affected by the law, the personnel department on personnel matters, and the planning department about new office systems and machines.

The personnel and planning men in most organizations are staff people who assist the line supervisors by giving suggestions and advice rather than by issuing orders. The large development of the personnel function in recent years has increased the amount of background available to the supervisor, but has not taken away his responsibility for dealing with the employees who report to him.

Within many operating departments, also, the role of the specialist is growing. The man who knows the intricacies of the law, or of production engineering, or of accounting, or of a score of other specialities is often as well paid as the supervisor to whom he reports. The specific role of the supervisor is to deal effectively with people and to see that the

work goes through smoothly and well. Often he knows less about a speciality than does one of the specialists, but he is responsible nevertheless for seeing that the contribution of the specialist is properly geared to the rest of the work of his unit.

Specialization steps up the necessity for management and supervision to see that all the specialized activities are synchronized into smooth operations. Specialization of knowledge and of function has vastly increased in the last generation or two and will almost certainly be extended further. Each increase in specialization, however, increases the necessity for direction of the work, and more especially for its coordination. The greater the subdivision of functions, the more attention is needed to see that the functions are properly integrated and controlled. Coordination is a continuing problem.

The supervisor thus finds himself in a situation where he cooperates with the specialists working under him or with him, from the highly paid experts to the specialized filing clerk; with technical sections outside his department that send him advice and that must be consulted; and with supervisors of other departments who handle part of the processes on which his own department works.

The crossrelationships with other departments make a large demand for the understanding and cooperation of the supervisor. He will supervise his own work best if he continually reaches out toward related work in an effort to understand it and if he is always ready to subordinate the needs of his own work to the common good of interrelated processes and of the company as a whole.

One advantage to the supervisor of the increasing complexity of business is that he is no longer valued primarily according to the number of persons in his charge, but far more on the effectiveness with which he can deal with others, whether they are in his own unit or elsewhere in the organization The emphasis has changed from "bossing" to cooperation.

IMPROVING THE WORK

The modern organization with its departments and specialists has brought new complications. Records, work, and papers flow from section to section, and from department to department. A transaction involving several departments may end in conflicts unless there is good feeling and mutual regard among the supervisors.

A supervisor should often ask himself, "How does our work affect others? What is its relation to the next process, procedure, or operation? Who should be advised of changes or stoppages, work scheduling

troubles, and problems of standards?"

It is an art to time operations so that they mesh together. It can only succeed where information flows freely, with communication avenues open. Putting changes into effect requires careful thought and consultation.

Difficulties between departments often arise either from differences of personality or from lack of coordination. Personality complications between colleagues must be dealt with just as those with other persons. Although many of the interdepartmental relations will be decided upon by the higher management, direct cooperation by the supervisors concerned will often strengthen the organization and help both departments.

Usually it is desireable to have a definite understanding of the scope of each department, but it is also exceedingly important to develop the cooperative spirit. Rules and agreements should act as guides to action. Whenever the letter of the rule seems to go against its spirit or to hamper effective operation, either the case should be treated as an exception or the rule should be modified.

Frequently, coordination between departments fails because of a conflict of aims or desires, or a lack of understanding of one another's requirements. Departments may work at cross purposes if each needs the same materials, facilities, or records at approximately the same time. Again, matters very important to the work of one department may be delayed elsewhere when their handling is only incidental to more important tasks. A definite schedule of the flow of work between the departments concerned should be worked out.

Sometimes the supervisor should go to his colleague and present his problem, asking for aid in reaching a solution for the common good of the organization. He should give his colleague time to consider the problem—to incubate it—and should be prepared to talk things over with him later. He should respect his colleague's right to have an opinion and should want him to contribute a solution satisfactory to them both.

Sometimes in clerical work certain unusual cases must be referred to another department before final action can be taken. Often these cases are not important to the second department and are held up unduly. If you are seeking to correct a situation of this type, do not indicate your judgment of what another man is doing by complaining of "lack of cooperation" or "poor service." Get the facts. Suppose the operation takes only a small amount of working time, but an actual record shows that the last ten cases were returned as follows: two on the same day or with one day's delay; three with two days' delay; three with three days' delay; and two with five days' delay. If you go to the other supervisor

with these data, you do not approach him as an opponent who accuses him of something wrong; you have certain facts, which are obviously not satisfactory, and by a little tact you can indicate that you are both working together against the unsatisfactory condition. Is your department sending the material to him at the wrong time or in an inconvenient form? Can your department do anything to speed up the completion of the work?

In a certain life insurance company special commission adjustments on new business were handled in a separate department from the one which passed upon the application and wrote the policies. The issue department tried to give prompt service. However the other department frequently would not decide upon the commission adjustments for several days. The issue department hit upon the plan of holding the cases one day for the other department and then issuing them with a letter stating that they would write to the field office about the commission as soon as they heard from the other department. This speeded up action materially as the other department did not wish to appear at fault. Such a plan might often be useful especially when the two supervisors agree upon a fair time to allow

Much unessential work is performed because one unit does not know the needs of another. Often a little time spent in checking with others on the use of information in a report will eliminate some items and add some of greater usefulness. Duplication is often caused by one supervisor not knowing what happens to his output.

Often it is not enough to consider changes by thinking only of the people who might be affected. You may need to follow a regular system of discussing changes with others and using a systematic way of checking and clearing changes before they are put into effect.

It is a great help to try out your new ideas on associates. In fact, you should always talk things over with them before making a decision which will involve them. Teamwork depends upon acting as if you were in the other fellow's place. How you consult him will have much to do with the cooperation you receive.

COMMUNICATION—THE HEART OF RELATIONSHIPS

When points of controversy arise, keep the matter of determining the facts and deciding a proposal as objective and impersonal as possible. Find out further whether you and the other person are really discussing the same thing. A definition of terms often shortens a dispute. The truth or the best way, and not a personal victory, should be sought; admit you are wrong if you find out you are, and don't give a long ex-

planation unless it is required. Deal with the other disputant always on a basis of courtesy; do not call him a fool, even if you feel compelled to tell him that his views are foolish; do not insinuate against his motives, but speak and act as though he also is guided by a wish for what is best.

Different persons looking at the same situation often see it quite differently—a fact which sometimes leads to disputes and misunder-
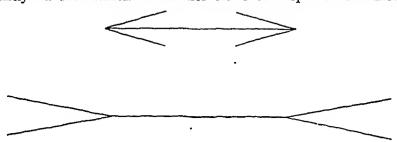

Figure 1. An Optical Illusion

standings. In Figure 1 are two straight lines with arrowheads at the ends. The upper line has the arrowheads pointing out; the lower one pointing in. The length of the lines between the arrowheads is slightly different. Probably the lower line will look at least as long as the upper one, yet actually it is a trifle shorter. The upper line represents the feeling of the supervisor who looks out at the other fellow and thinks he himself is getting the short end of a deal; the lower line represents his feeling in looking in at the other fellow who is thought to be getting more than his share.

Dealing with Superiors

Company success rests heavily on how well the management group performs in achieving person-to-person understanding
Improving Human Relations, National Association of Manufacturers 1956, preface

The work of managing is tending to become professional as a distinct kind of work in itself. It is becoming a job that requires a great amount of specialized thought, effort, and training in the principles as well as the techniques of managing. For the manager has the challenging task of getting results through the work of other men and women, rather than directly through his own effort.

This professional approach requires, in fact, a dedication of the man's self and service not only to the owners of the business through his board of directors, but also as a steward to the company's customers, its industry, its employees, and to the community at large. The professional manager must always place the balanced best interests of these ahead of his own personal interests. The corporate manager today thus has an opprtunity and an obligation for service comparable to the highest traditions of any professions in the past.
Ralph J Cordiner, *New Frontiers for Professional Managers* copyright McGraw-Hill Book Company 1956, pages 16-17, by permission

The supervisor's main duty to his superiors is to conduct the work assigned to his department. He should àccept responsibility for the work entrusted to him.

A department head complained, "My supervisors won't make decisions. They always pass the buck to me, or they just sit and wait for me to make a decision." On talking with the supervisors the authors found that they wanted to make decisions but they had been reversed by

their superior so many times that they were discouraged. They wanted to see the direction from which the wind was blowing before reaching conclusions.

The supervisor should stand ready to do more than is assigned and should train himself for larger tasks without pushing himself forward. Sometimes he may suggest additional tasks he might effectively take over. At other times, for the good of the organization, he should suggest a reduction in the activities of his own department. As pointed out in the first chapter, if his duties are not well defined, he should attempt to clarify them, at least in his own mind.

The supervisor should study his superior's temperament and mentality in order to assist him effectively, to avoid friction, and to make relations happy and satisfactory. We are not urging that a supervisor kneel to his superior or render him blind or uncritical loyalty. An outgoing sympathy, understanding tact, and good sense should guide his actions. He should profit from the good points shown by his superiors and should train himself to avoid following any poor practices. He must be equally loyal to his superiors and to his subordinates in order to maintain a healthy spirit of cooperation.

YOUR COMMUNICATION ROLE

The superior will naturally turn to his assistants to learn the details of the functioning of the department. The supervisor must give as fair and consistent reports as he can, bringing up points which are handled exceptionally well or which present unusual difficulties. The superior will need to do little about the good aspects, but he should be told when a member of the staff does particularly well. He is required by his job, however, to know what difficulties are encountered. He may wish the supervisor to handle some types of trouble, whereas he may help on, or actually handle, other types. The supervisor must learn what facts his superior wants to know, the kinds of difficulties which he should handle himself, and those which he should refer.

You should remember also in your relations with your superior that you represent the workers as well as yourself. You have the responsibility to represent your employees, to plead their cause, present their grievances and suggestions objectively, and seek training transfers, pay increases, or promotions for them on the basis of merit. The climate of the enterprise is created by the relations of the human beings who compose it and above all by the day-to-day working relationships of yourself, your employees, and your superior. He needs to know from you the feelings of his employees. You are in some measure an

extension of his eyes and ears to tell him what he needs to know.

Although you have a great responsibility to give your superior the information he should have and to represent your employees to him, you also have a big need for information from the boss. If you do not get new policies promptly, if you do not get the background to interpret them, and if you are not "in the know" about things which are happening elsewhere in the company, you cannot do the right job of representing management with your workers. To be sure, you would share this difficulty with many other supervisors. The National Association of Manufacturers found in a survey that 50 per cent of the foremen felt that they had no responsibility in interpreting the company to employees and that 65 per cent said that they had not been trained on how to pass information on to employees.

If you have a perfect boss, he might remember to give you the information you need. If your company operates on a perfect plan for communication, you will get word through channels about new policies and programs and production and vacancies and shutdowns and many other things. It is likely, however, that neither your company nor your boss is perfect. It is the part of prudence to make it easy to hear things. You may get much information from your colleagues, so that only a brief word with your boss may give you the enlightenment you require. It helps if you are on the look-out for information. Thus you glean from your boss and from others the facts you need, about the company's philosophy, organization, budget, sales forecasts, research and development, plans for expansion, changes in personnel policy, and other developments and changes which you may know or suspect are in the wind.

YOUR RELATION WITH YOUR SUPERIOR

One of your most important duties is to assist your boss effectively. If you wish to be on good terms with your superior, study his work habits and respect them. Note the times of day when he is relaxed and ready to listen. For example, he may arrange to ride home half an hour after the office closes, or he may come in bright and early. But he may want those times for special work in his office. So be sure you know the times he does not wish to be disturbed.

Some superiors believe that their instructions should be followed exactly as given. Many persons think that to question the orders of a superior is insubordination. The best executives, we believe, expect their subordinates to question any order which seems unwise. They have no respect for the subordinate who says, "You told me to do it

this way. I thought at the time you were wrong; but you are the boss, so I didn't say anything." The subordinate ought to mention his doubts at the time. Then if the superior still thinks his plan best, the subordinate should carry it out loyally.

Many criticisms which intermediate supervisors make of their superiors reveal a lack of reflection on the nature of executive work. An executive spends much time planning for the future and dealing with matters external to the work situation.

Under present conditions, corporate performance is very much affected by events beyond its portals, such as the conditions of life in areas surrounding the industry, the general economic situation, and the role of the State All those so-called external factors, which, perhaps, in a large metropolis or in a foreign country would be of no critical concern to the employer, have become very internal and intimate factors affecting the conduct of business as well as the life and safety of those engaged in it No longer can we wear blinkers ignoring those external pressures and influences

R P Billimoria "Personnel Management and Corporate Objectives—Some Apparent Conflicts," *Management Bulletin,* October-December, 1965, Department of Business Management and Administration, University of Delhi Delhi, page 6

An executive also spends considerable time checking performance and dealing with actual or potential troubles. Normally what goes well is called to his attention only in summary. In contacts with the staff, he is frequently dealing with some trouble. Often he is pressed for time. He must see that work is carried on by others, since he would cease to be an executive if he did it all himself. Yet it is his duty to be sure things are done properly. The organization, therefore, should be set up so that when things go amiss he will know and can take action.

If you hear an executive criticized because he acted with meager knowledge of a situation, ask yourself how he could get greater knowledge, and whether if you were in his place, with all the other duties which you would have to perform, you could have used the time and planning necessary to get a more detailed picture. Then ask yourself whether you take up his time with matters you should handle yourself, and whether you take troubles to him early enough, before they have created a bad situation.

It is sometimes discouraging to find how little attention an executive appears to pay to good points. Many times he is quite aware of the good work which is being done but does not take time to express his appreciation.

The general manager of a large company was criticized by a supervisor

of one of his departments because he did not accept without some cross questioning the figures which were supplied by this man's department Instead, the general manager looked over the figures, picked on one or two and asked for a detailed explanation and verification of them

What better method could a general manager use to be sure that the figures were prepared sufficiently carefully to warrant his signing the report in which they were to be presented to the public?

Asking for such detailed verification is about the only way to build up confidence in the picture as a whole. To test grain in a freight car, a little wheat taken from several places in the car is very thoroughly analyzed and tested. On the bases of the small sample, the whole car is accepted or rejected.

A higher executive often becomes greatly annoyed when he finds a minor error, in itself unimportant, in material supposed to be correct. He naturally wonders how many other inaccuracies there may be. Usually it is physically impossible for him to verify the work himself, and financially prohibitive to have every bit inspected. Therefore, he must decide how far to act upon the work done and how far to allow for other errors. Under such a circumstance, it is natural to show anger, which is the typical emotion when one's desires are thwarted and one feels unable to do anything about it. A superior should be warned if given unchecked work. Then if he finds an error, it will not cause him to doubt the other work.

PRESENTING IDEAS TO SUPERIORS

Presenting ideas and suggestions is an art beset with various difficulties. In this discussion, it is assumed that the supervisor is convinced that his views are valuable for the organization as a whole and that he is not interested in tricks for putting wishes over, when what is gained by one person is lost by another.

There are several principal difficulties in getting suggestions adopted:

Preparation of idea

Suggester lacks knowledge of interrelationships
Not clearly thought through or presented.
Difficulties not sufficiently overcome
Importance not demonstrated.

Time

Suggester has not time to work out idea adequately

Executive lacks time to act on it.
Not opportune time to make suggestion.

Inaction or Adverse Action on Idea

Difference of opinion on best solution
Suggester lacks tact and patience.
Fear of unknown or unproved
Perfectionism
"It has never been done that way"—pride. prejudice, jealousy. inertia
  Supervisor wants to originate the idea himself.
  Suggestion may take work away from someone else.

The commonest justifiable reason for no action or unfavorable action on a suggestion is its improper preparation or presentation.

The suggester should know exactly what he has in mind. It may be unwise, however, for him to invest a long time in working out the details if he thinks the idea may have been considered before. It is sometimes well to inquire about the suggestion in a preliminary way, both to find out the most important objections and to allow for incubation in the mind of the superior.

When a certain junior officer wished to get a plan adopted, he would work it out in detail himself While seeing his superior, he would mention casually, "I've been thinking about such and such a problem and it occurred to me that maybe we would be able to work out the solution along these lines "

He would then mention the high spots of the plan, but he would not ask for an opinion However. he would get at least a general reaction and a hint of the probable points of agreement and disagreement He could then in his later presentation take care to meet the objections which he gleaned in the preliminary discussion. The superior had a chance to think over the proposal both consciously and unconsciously. The completely worked out plan would not seem wholly new. since he had had some preparation and incubation on the proposal.

If a memorandum is prepared, give the general idea clearly and briefly. Find out how much detail a certain superior wishes, and meet especially the points he will probably raise. In addition to the strong points of the suggestion, it is well to mention difficulties and disadvantages, since it is the duty of the excutives to see these. It may save time to point them out and tell how they may be avoided or minimized. Sometimes details may be given and objections met in a supplement.

The memorandum should be prepared especially to interest the man who will act on it. His mental habits should be studied; for instance, if he is mainly interested in service and general ideas, show how the plan forwards service. If his actions are influenced largely by definite factual considerations, give statistics. If he is a crank about punctuality, be sure to be on time for an appointment to discuss the idea. These suggestions are made not to encourage insincerity but to make relationships smooth and constructive.

When the superior knows of a specific difficulty or sees that an idea is particularly applicable at the present time, he will more easily give it consideration. To make a suggestion seem important enough to be acted on, a saving in time or cost should be brought out, or better service suggested. Definite figures of the number of times the situation arises, or of the proportion of the difficult cases to the total, may indicate clearly that the matter either does or does not require prompt action. If exact figures are hard to get, approximations or estimates or the results of an exact count of a sample group of cases may be presented.

The superior is likely to be interested in the broader aspects involved, and he may want to know that you have considered them. Furthermore, he is probably not so close to the actual working details as you are. If details have been changed since he was in touch with them, you should review the facts. In this way, you can help bridge the gap between your experience and his and make your knowledge available to him. Sometimes a superior appears indifferent when actually he has other solutions in mind or knows reasons he cannot disclose why the idea cannot be tried.

The superior is more likely to approve an idea if it is in shape to be put into effect easily than if he has to work out further details himself. The extra work you do to make it easy for him will probably result in greater practicality, and inertia or lack of time will be less likely to hold up the suggestion.

State briefly, before going into details, the main points of difference between the present and the proposed methods and the chief advantages of the proposal. Sometimes detailed descriptions of both methods may be given. You may prefer to omit writing out the details, but when the idea is ready for final approval be sure you have them clear in your own mind, or better, on paper. Often a detailed description of the steps under a proposed method will seem much more complicated than the present ones. When one is familiar with the present method, one tends to think it simple and straightforward, and to forget many of its complications. A new routine with unfamiliar features may appear far more complicated even when it is really simpler. Charts of the present and

proposed steps, if prepared on the same scale, can give a quick visual perception of short cuts. Some superiors may wish to see the data on which you base your recommendations; others prefer to hear what you have to say.

It may be desirable to discuss the suggestion with one or more subordinates and try to persuade them of its practicality. They may bring up new points and may show you what questions your superior is likely to ask. Also, they will feel part of a team if their suggestions and advice are considered.

Care should be taken to present to an executive only such ideas as are worth his time, and on an occasion when he is not too busy to give the requisite attention. When, however, an idea is definitely presumed to be of value to the company, it is up to the individual to find a time when he can bring the matter up.

Remember that at times what you know to be quite important may be *relatively* unimportant to the top executive who must pass upon it.

A personnel manager was granted an interview to discuss a new training scheme with the general manager When he arrived at the office, the latter said, "I am glad you called up Can your matter wait? I want someone to listen while I think out loud We have an option on————————— (naming one of the many chemicals used in the manufacturing process). We use about a million dollars worth of that a year. The option expires at five o'clock today When we took the option we were threatened with inflation and the price seemed very good, but now it looks as though prices might drop instead, in which case we could lose a lot of money."

For two hours the personnel man sat listening, his own proposal shrinking in importance. He could perhaps save ten thousand dollars a year by his new training plan, but that was not important at the time—a million dollar contract was.

Chalice Kelly Coyle, *Personnel Journal,* January 1938, page 181

It is difficult to draw the line between proper persistence and being a nuisance. A busy, important executive, who may be typical of many others, said that he considered it distinctly the responsibility of a subordinate to get in to see him no matter how busy he was if there were some important matter to be discussed. "If I say I will give a man a ring at four o'clock and I do not, it is up to him to call me and remind me that I was to get in touch with him."

In an another instance a supervisor told an officer's secretary that he had made an appointment with the officer to see him the first thing in the morning. She replied, "Oh, you're the fifth one." Ingenuity is sometimes demanded to get action from executives (as well as from other people). This is not because executives are necessarily dilatory,

but because with their responsibilities it is difficult for them to take up everything at the time when it should be taken up. Therefore, their subordinates should make it as easy as possible for them to take up things in a brief and satisfactory manner.

When possible, keep the initiative in your own hands. It is tactful to say to a superior, "If I have not heard from you by next week, may I come in then and ask what your reaction is?" If he suggests that such and such an activity cannot be undertaken for three months or until after the vacation period, be careful to bring it up at the designated time. If he has promised to telephone you at a certain hour and you have not heard from him, you might call him a little later, saying that you were away from your desk shortly after the appointed hour and you hoped you had not caused him inconvenience if he couldn't get you.

A supervisor in a discussion group told of a difficulty he had in getting executive attention. Two exceptional cases came up, and he found he was unable to get an interview with his superior. Therefore he handled the cases according to his judgment. Later his superior called him down for not bringing the cases to his attention. "It's up to you to get in to see me when cases like this arise." Another time, the junior did break into his executive's office and was refused time. Therefore he again handled the case as best he could. The group asked him what he was going to do next time, and he said, "Next time I will also burst in, and probably get thrown out again!" The suggestion was made that it would be fair to the man and also to his superior if he prepared a brief memo outlining the case, with the statement that he had tried to consult his superior, had been unable to do so, and so had taken a particular action.

Do not expect your ideas to be accepted when you first suggest them. Remember the importance of preparation and incubation in the thinking process. Be prepared to present the same idea several times, possibly in slightly different forms, over a period of time. Do not stop because you hear that the idea was turned down once before. Put a new dress on it, if it seems to need one, and try its fate again.

One of the authors was making a survey of a company and submitting recommendations for changes. The planning man in the company time after time brought out memoranda dated two, three, or even five years before outlining substantially the same recommendations on which favorable action was being secured.

The fact that suggestions often must be repeated several times before they are approved is one reason why it is so hard to give credit for a suggestion to the proper person. Usually the last person rather than the first is the one who gets the credit.

In submitting suggestions it is advisable to keep a copy. It may be useful later.

A man presented a memorandum to his chief only to have the idea dismissed as impossible. Three months later the chief asked him for some ideas on the topic and he produced the memorandum, merely changing the date and having it retyped This time it was "a perfectly fine idea" and was immediately adopted

(One supervisor commented upon this story. "Only too true—and perhaps three months later the boss presents the idea as his own inspiration !").

If you become quite sure that your proposal will be turned down, try to avoid any definite action on it. Suggest that the matter be laid aside for a few months, or until more data are available. Once it is definitely rejected it will be harder, though not impossible, to bring it up again.

Selecting

and

Training Employees

One survey of problems in Indian industry concluded that the important common problems in public sector and private sector undertakings were.

Training and Instruction
Employee Relations
Management (general)
Supervision

It is curious that specific things like Production, Hours and Shifts, Safety and Housekeeping, Wages, and Working Conditions (Physical) were rated much lower in this survey.

N.R. Chatterjee *A Study of Some Problems in Indian Industry—An Opinion Survey,* Organisation of Business Management and Industrial Administration, University of Delhi, Delhi 1965 page 4

It is the obligation of every man in an executive or supervisory position to work with the men under him in order to develop their capabilities so that they may have greater satisfactions and attainments from their work. ...

Personnel administration has the responsibility of maintaining the American (democratic) way of life in work relationships

Lawrence A. Appley, *Management in Action,* American Management Association, 1956, pages 360 and 362

The skilled administrator is just as much a teacher as is the director of

training In fact the administrator is probably a more effective teacher because he is in daily working relationship with his assistants But he is also a student to learn from every experience. Moreover he can provide the "climate" for learning by encouraging new ideas and new approaches and their evaluation in terms of continuous improvement.

Carroll L. Shartle, .*Executive Performance, and Leadership* © 1956, by permission of Prentice-Hall, Inc., Englewood Cliffs, New Jersey, pages 252-253

Most companies other than small ones now have a personnel office that works out personnel policies for the organization and does some staff work on personnel matters. Even though some parts of the personnel job may be well performed in a central office or by personnel specialists, the heart of the personnel job must be carried out by the supervisor in the work place in face-to-face relationship with the employees.

The quality of the staff and above all the quality of relationships built up have a great deal to do with the success of your department. Moreover, you will be judged by the good or bad work of those in your group. Well-selected, well-placed, and well-trained people with high morale can make almost any system work, but poor training or morale can wreck any system too. You have a stake in your people, even though the actual recruiting, screening, and testing are usually performed by the personnel office.

STANDARDS FOR SELECTION

The supervisor usually sets forth the general requirements of the job before it is filled by hiring or by transfer or promotion. Usually he prepares a job description or list of duties which the employee is to perform. Standards of physical fitness, education, skills, training, or experience may then be determined.

Many of the best employers consider applicants on their merits without regard to age, sex, religion, or origin. The Constitution of India forbids some kinds of discrimination. For some jobs, literacy is necessary and for others, there may be high educational requirements. Understanding or speaking one or more specified languages may be stipulated, such as Hindi, English, or Tamil.

Employment and supervision of some classes of workers make special demands on the employer, namely, the young, the female, the handicapped, and the persons fresh from a rural area. People in all these groups can perform well. Some may need more supervision, training on the job, and individual attention at first. After they have been on the job a while, they need not be treated differently from other people.

What does a supervisor do in dealing with the needs of these workers? Annually the youth who have reached working age form a new part of the nation's new work force. The help they get in starting out may shape their future attitudes and worker-employer relations. A foundation for a young person's lifetime industry and performance is often laid in his first job.

A young worker requires patience, more careful job instruction, and different treatment from that given his elders. You have to orient him to a job more slowly than an experienced worker. You should be clear and specific in all instructions; and be sure he learns each step before going on to the next. You must constantly be aware of developing good work habits. Try to discover his capabilities early and develop him to take responsibility. Show him how well he is doing and give him credit for a job well done. Be enthusiastic and show genuine interest in his work. Remember that "good attitudes are caught not taught."

With the growth of educational opportunities for women and with greater urbanization, the proportion of females in the work force is rising and will continue to increase. The law, however, may make special requirements for working hours and conditions. Especially in light jobs requiring dexterity, women often produce more than men.

Where physically handicapped persons have been employed, they have given a good account of themselves. One of the authors noted a blind worker giving satisfactory production in a light metal factory in Madras. In Western countries, it is common for good employers to accept handicapped applicants and to place them selectively. Thus persons who are blind and deaf, amputees, spastics, persons with health deficiencies, and those whose faces are disfigured are all employed at jobs for which their particular impairment does not disqualify them.

Many handicapped persons have better records than do the unhandicapped. On the average they do not have more accidents on the job. Normally they produce slightly better and have less than normal rates of absence or turnover. Their performance usually has a good effect upon fellow workers.

Many of them are determined to make good on the job. Some adaptation of the desk or other equipment may be needed, and sometimes slight changes in procedure. Training also takes a bit more time and care. Regular follow-up should be made for some time to assure the success of the worker and to help him with any difficulties which may arise. Fatigue, strain, accidents, or absence should be noted. The handicapped individual usually wants to be treated as nearly as possible like anyone else, but he may be more than normally apprecia-

tive of being assured that his work is satisfactory or better. A supervisor who can help an impaired person make good gets a big reward in satisfaction.

People from rural areas getting their first employment under urban conditions have a number of special problems of adjustment. They therefore need the understanding of the supervisor and may need even more consideration than the young, the female, or the handicapped.

TESTING

Tests have now become accepted aids in the selection of people for jobs, especially clerical ones. Many of these are used as the cook uses a strainer to remove what does not seem suitable. A general intelligence test is such a screening device. If people score very high, they are not suitable for retention on routine work; if they score very low, they probably should go into simple jobs.

A special American study on personnel testing practices in life insurance companies, published by the Life Office Management Association in November 1957, shows that all the large life insurance companies use tests. So do more than three-quarters of the smaller or medium-sized companies. Among those employing fewer than 200 persons, slightly more than half use tests and quite a few more were planning to do so. Extensive use is made of tests of typing, clerical aptitude, mental ability, shorthand, and mathematical ability. Tests for temperament and personality, English usage, mechanical aptitude, manual dexterity, and bookkeeping are used less.

The life companies make fairly extensive use of "home-made" tests, but these require substantial amounts of research to be reliable. Established tests are available from numerous sources. However, the usefulness of a specific test under conditions obtaining in a given company should be carefully evaluated.

Tests are used not only in initial hiring and placement but also for subsequent transfer and promotion. They are aids in making personnel decisions, and add valuable information to what is already known about the applicant or employee from his application, interviews, and experience. Although tests measure some important characteristics in a job situation, they do not measure them all. Hence when the employee is known in the company, his record of performance should be the primary basis for his transfer and promotion.

The giving of tests does not require much special skill. However, a good deal of special knowledge is required in order to select a test, check its validity under company conditions, and interpret its results.

Where testing resources are not available to the supervisor, he should not ordinarily get into testing unless he is able to give careful study to the results secured by himself and by others. He may wish to do so if he heads a large department. In any case he may try out some very simple tests himself. He may also profit from spending some care in determining what practical things to ask or to have demonstrated in order to judge the suitability of an applicant. If the latter does badly on the rough test, however, it is good to remember that a test is not an infallible guide. Moreover, lack of ability in one line may not mean any lack in other types of work.

A few examples of simple tests are suggested here. A stenographer may be given a few paragraphs of dictation to transcribe. A typist may be asked to type a standard letter. Both accuracy and speed should be considered. It is not hard to test for adequacy of grammar, punctuation, letter composition, and the spelling of words commonly used. A fairly typical letter is prepared without punctuation or capital letters with some grammatical errors, and with a number of misspelled words. Then the person to be tested is asked to type a correct letter from the incorrect draft.

People vary markedly in their ability to file promptly and accurately. Various simple devices may be used to test filing ability. Tests are also available commercially. A set of cards prepared with names and numbers can be used. They are shuffled and the applicant is asked to sort them alphabetically and numerically. Another device is the use of two columns of names and of figures, some of the items in the two columns being exact duplications and others having slight differences. The person tested should be able to mark quickly which pairs of items are the same or different.

Often a few minutes' talk with an applicant will indicate clearly that he would not fit the requirements for such positions as are open. Therefore, it may be well, before giving any tests or even having an application blank filled out, to talk with the applicant. Those who will not be considered further should then be told tactfully but truthfully that they do not qualify. This is particularly easy when the reason is quite objective, such as poor grades in recent schooling. It is fairer to the applicants to reject them definitely than to hold out the possibility of employing them at a later time.

THE EMPLOYMENT INTERVIEW

When the personnel office does the recruiting and screening of applicants, the supervisor usually has at least some say on actually employ-

ing the individual for a job in his unit. An exception may be reassignment during lay-offs, when he may be required by the situation to take a person whether he thinks well of him or not. Even then he is usually asked to interview the individual before accepting him as a member of his work group. If he is not satisfied with the prospective employee, he should tell the personnel office or his superior at the time. There is little use in saying later that he thought all along the applicant was not good enough.

When you interview an applicant, even if you do not expect to employ him, remember that he will judge your company and your department by the contacts he makes. Try to have him leave with the feeling that your organization would be a fine place in which to work, that the people in it know their jobs and treat the public fairly. Remember that it will take no more time to see a man promptly than to see him a half hour later, and you can politely be brief if you have not kept him waiting.

Put the applicant at ease as soon as you can, perhaps by telling him briefly what the department does. Or maybe you can find a common interest in school, place of birth, or some other point. Your object should be to learn about the other person and what is on his mind. Don't waste time by speaking much yourself. Be a good listener. You may need to talk at first to get the other person started, but once the ice is broken you should do little more than guide the conversation and keep it going by asking questions. Often you will get more information if you will let the person talk as things come to his mind.

The important point to decide is how well the applicant would fit in. Definite questions should therefore relate to the job which is open. For instance, if it involves quite continuous operation of a calculating machine, ask how much calculator experience he has had, how he likes working with office machinery, and whether he has ever timed himself on machine work. If the job is of higher grade, one might ask what he expects to be doing ten years from now and how he hopes to be able to reach his goal. This may indicate how ambitious and how practical he is. A good interviewer tries to find out whether in the past he has done what he has set out to do both in school or college and in previous jobs.

It is usually not worthwhile to take able workers for easy jobs unless you can advance them reasonably soon. Some people are too capable mentally to remain satisfied or interested in simple work. They have interests which are not absorbed by their task, and if they are kept at it for a considerable period they are likely to prove unsatisfactory.

In describing the job, be careful not to make it appear better than

it is. You may get a desirable person into the company by an over-statement; but whether deliberate or unintentional, it will soon be discovered by the new worker, and you will lose his confidence.

If you make any promises as to probable pay increases or promotion, be sure to write them down and 'file them where you will see them when the time comes for carrying them out.

Some supervisors do not mean to make a specific promise, but they may say in a general way, "If you come in here and do a good job, you will probably be getting ten rupees more by the end of six months." In one such instance a clerk entered her work with enthusiasm. When at the end of eight months there had been no salary increase, she wondered whether the management wished her to resign. Actually the officer interviewing her was unaware of having made any promise. The girl's work was quite satisfactory, but for several reasons an increase of salary had not been considered What was thought to be a broken promise almost ruined the clerk's future with the organization

Some companies now no longer ask for or consider written references from persons seeking employment, since few people will refer to anyone who will not write favorably. However, if one can talk with a previous employer or other reference over the telephone or, better still, if one can see him in person, one often can learn a great deal about the applicant.

STARTING

A new employee's attitude is easily shaped by the first impressions he receives. His cooperation is invited and his adjustment eased when he is carefully introduced to his job.

Be sure that there is someone on hand to direct him when he reports for work. Usually his immediate supervisor is the proper person to start him on the job. Immediately tell the new employee something about the program for the day.

Go over with him briefly the important aspects of the company practices in regard to such things as hours, lunch time, lateness, overtime, how payment will be made, where to hang his coat, where to wash, and so forth. Perhaps your company has a booklet that gives some of these facts.

A new secretary, Padma Doshi, had just been hired for the department head, Mr. Ranjit Singh. "No, I don't think I should start Miss Doshi on Monday," said Mr. Ranjit Singh to the personnel officer. "Make it Tuesday

instead. I have to spend all day Monday in meetings. I don't think it is good for a person to report to work and then find that nobody really wants her around I want personally to get her off to a good start. Can you arrange something else for her on Monday, such as orientation in your shop? Otherwise ask her not to come in at all until Tuesday. Then I shall be ready for her, bright and early."

You as supervisor should see that the new person is personally introduced to the persons with whom his work will bring him in contact or who are working around him. Introduce him yourself if you can. If he is literate it will help him if he is given a rough diagram showing where the people sit by roughly sketching positions of their work stations or desks with the names. If first names are generally used, they can be put on the chart as well.

It will give the new employee a sense of being worthwhile if he is introduced to your immediate superior and to the highest superior above you who is willing to take the time to meet new employees. In one company employing several hundred people, the chief executive personally meets each new employee and spends three or four minutes talking with him the day he starts to work. In another company, the managing director meets each employee on his second anniversary of service.

Probably you will not wish to spend very long with the new employee, who will doubtless be glad to sit down by himself or with someone not his boss. You should have planned some job which he can do with very little instruction. Give him this, or turn him over to someone else who is ready to help him. You may wish to see him later the same day.

In many cases the new worker should be turned over to an experienced person in order to learn the particular job which he is to perform. But the immediate supervisor should maintain frequent contacts, say once a day, during the first few days.

Either on the first day or soon after he has started to work explain to the new employee the relation of the work of the department to the company as a whole. Also see that he knows something about the company's place in the business of the country.

TRAINING

Practically no job can be well done without at least a small amount of training. Frederick W. Taylor, the "father of scientific management," found that the shoveling of iron ore could be made more efficient and less fatiguing with a suitable shovel and pertinent instruction. Even

on simple filing there must be instruction on the way a particular office files titles like "The ABC company" or "286 W. 11th St., Pvt. Ltd."

In large companies training of new employees is systematic. It may even involve sending employees to school. Especially in the case of technicians and executives, special training may be given by universities, schools, or professional associations. Most training, however, is not so formal in character and rests upon the shoulders of the supervisor.

Training involves: (1) job instruction sufficient to do current work and to operate equipment; (2) establishment of sound working habits; and (3) understanding of relationships and subject matter to provide for intelligent, constructive attitude, and for promotion.

The authors have found that most groups of supervisors assume training to be a good thing without realizing the difficulties or disadvantages which should be avoided or reduced in importance. The following lists are based upon the experience of a number of supervisors.

The advantages of a definite program of training workers to do their jobs better include these:

> Workers can perform more accurately and faster.
> Work methods can be standardized
> Trained workers require less supervision
> Good work habits are inculcated
> Training requires the supervisor to learn his job well
> Training fulfills a moral obligation to develop subordinates
> Training promotes cooperation and teamwork
> Training minimizes the difficulties caused by turnover.
> Training of others frees the superior so that he may be promoted
> Training preserves the advantages of past experience
> An attempt at training enables you to find out sooner whether the worker is suited to the job
> Definite training develops workers much faster than the trial and error method of letting them find out for themselves how to handle work.
> Training gives a better basis on which the worker may exercise his judgment.
> Training often makes handling of details practically an automatic process
> Training teaches workers to recognize more easily and to give special attention to unusual cases
> In the process of training, the teacher can learn a great deal about the capacity of the worker and forecast future promotion
> Trained people take more interest in their work.
> Trained people can accept responsibility when it is delegated
> Training workers in one another's work provides flexibility and substitutes for those who are absent

As a result of these factors, training reduces turnover and costs.

Offsetting the above advantages are a number of disadvantages or difficulties. Some or all of these may be present in any given case. In recognizing them a supervisor can make the necessary adjustments in planning and carrying on his training duties.

Training may be given which is not required by the work performed

Training requires the expenditure of time and money.

During the training regular work is likely to be interrupted so that individual output is reduced.

Teaching and instructing are difficult and a poor instructor may do more harm than good

If a worker is trained, he may feel that he is capable of doing a better job, and may become dissatisfied unless he is advanced promptly.

If a worker leaves soon after the training period, the company loses most of what it invested in training.

Go over these lists, checking those factors which you consider of most importance. Do this first for training the new employee on his first job. Then do it for training an established employee for further work. Some training is inevitable. The practical question is not whether to train, but what training to give, when to give it, by whom, and how. Keep in mind that training means developing certain work habits in a person and giving him information which will help develop those habits or actions which lead to practical results.

The distinction between education and training should be recognized. A football fan may be highly educated in the theory of football but utterly useless as a player. Similarly, a clerk may be trained to compute quickly and accurately the loan value of any life insurance policy likely to come to his desk, and yet he may be totally uneducated in the actuarial principles upon which the values are determined. As a trained computer, he may calculate much faster than an educated actuary. Likewise, a mechanic may repair an automobile better than an engineer but he does not know engineering equations or principles. There is a lot of difference between knowing the rules of chess and being a good chess player.

The training discussed in this chapter relates to the knowledge and skill necessary to do a job.

Knowledge alone is only a fraction of the interralated complex that constitutes the behaviour system. Knowledge developed in isolation is like building up inventory of ammunition without guns to use it. Abilities,

skill, and attitudes play a very significant role in the effectiveness of a person

Abad Ahmad, "Some Thoughts on Learning," *Management Bulletin,* March 1964, Department of Business Management and Industrial Administration, University of Delhi, Delhi, pages 2 and 22

As to the danger to a supervisor of losing his job because he trains his staff, we believe that this is much more than offset by the danger of his losing a promotion if he does not train them, and particularly if he has not developed an understudy.

KINDS OF TRAINING

A story, told by Dr. Walter Dill Scott, of how different persons learned to solve a Chinese puzzle illustrates four main ways of training.

Dr Scott was staying at a boarding house where a boy had a Chinese puzzle He worked at it haphazardly, trying blindly, till he just happened to get it right after eight hours' work. His next attempt did not take so long, but it was many days before he could solve the problem rapidly

Another boarder attempted to solve the puzzle by watching the boy put it together after he had learned how. The second person accomplished the solution in two hours, by the apprenticeship method of watching someone who knows how

A mechanical engineer set out to do the puzzle by scientific procedure. He figured out the principles that he thought might be involved, tried them, and abandoned methods that proved unsuccessful. He succeeded in half an hour, and later trials were all successful and rapid

Dr. Scott then started on the puzzle with the engineer standing by. He tried to unite the blocks, and as one difficulty after another arose, he was given instruction in the principle for overcoming it No principle was presented until the situation required it Practice and theory went step by step, but practice preceded principle As a result, the problem was solved in fifteen minutes, and Dr Scott knew how he had done it, and how the principles would apply under other circumstances.

Very little can be said in favor of the "sink-or-swim" method of training. It is often quite expensive, although the cost may be revealed only when better methods result in higher average output per worker and lower employee turnover.

The apprentice method is often followed. A new worker is told little or nothing by the supervisor but is put in charge of an experienced person to watch him work. The crafts in which the apprenticeship system is followed do not seem to have progressed much. For instance,

the craft of bricklaying is at least 6000 years old and has been passed on from one skilled workman to another. Some years ago, however, Mr. Frank Gilbreth, a consulting engineer, studied bricklaying to see if he could improve it. He found that eighteen movements are customarily made by bricklayers in laying bricks, but four and one-half motions suffice, provided the material is properly arranged and the worker efficiently trained. He devised a new method of laying bricks which increased the number laid per man from 120 to 350 bricks per hour without making the bricklayer work harder. In clerical work it is by no means unusual for a clerk trained in technique to complete three or four times as much as an experienced but untrained clerk. Better methods are induced by study and training.

"Training on the job" is usually given by the supervisor, but may be delegated. General principles are taught in so far as they are related to the work immediately in hand, and their application is made evident.

WHO SHOULD TRAIN

A central training department can effectively give technical and other workers a general background in the organization's history, policies, and the interrelationships' of the different departments. It can also give apprentice training and instruction in specific types of work and in special skills. For instance, typing, filing, and business letter-writing can be taught effectively to personnel drawn from a number of quite different departments.

The proper use and care of machines can be taught centrally, including the use of adding, bookkeeping, calculating, and other machines and equipment. Representatives of companies which supply various machines are usually available and willing to conduct classes or give individual training on their particular equipment. Some companies also supply training guides for supervisors to use. Most of the modern machines are quite complicated and require initially a specialist to instruct others in their use. The average supervisor with only a few machines cannot be expected to be familiar with the operation of all types of modern equipment. He should know, however, what is necessary to maintain them and to recognize when they are out of order. He should also know what to expect of a worker's performance and what constitutes a good standard of production on any of them.

The primary responsibility for training a person to do a job well rests with the supervisor. Training away from the job takes away many contacts which the supervisor should make with the new employee in order to size him up fairly and to fit him into the organization effectively.

Most training, except when there are obvious advantages in centraliza-

tion, should be conducted in the department by the supervisor or under his direction.

If he is a senior supervisor, he may delegate some or all of his responsibility for training, but he should see that it is carried out, that the trainers are competent, and that the subordinate supervisors are aware of their responsibility. Usually the general introduction may be given by a person of fairly high rank. Specific training may then be carried out by the immediate supervisor or his assistant, or by a worker who not only is thoroughly experienced in proper methods but also has teaching ability. If the supervisor feels that he himself has not the knack of training, he should develop it. Normally it can be learned, if time and attention are devoted to it. An advantage of the supervisor doing the training is that he then sees the details himself and can easily make sure that extra work has not crept into the procedures.

It is wise to avoid having the training done by someone who is about to leave the company unless there is no question about his competence, loyalty, and ability to teach. Normally training should be a continuous process and cannot be done in full by a person about to leave.

If the supervisor does not do the bulk of the training himself, he should keep in close touch with the progress of the new employee and should check to see the quality of the work. The beginning of bad work habits should be avoided or corrected. The supervisor should be sure to polish off the training himself, unless he is perfectly satisfied with the results obtained.

HOW TO TRAIN

The proper steps in the process of training on the job are to:

1. Put the trainee (person being trained) at ease
2. Explain to the trainee the fundamentals of the work he is to learn. Tell its purpose, and explain briefly how it is related to work done before and afterwards.
3. Demonstrate the best arrangement of the work and the workplace This should be done by deliberate study and should not be left to the worker's discretion
4 Demonstrate one operation. Where an exact technique has been worked out, the best motions and the correct sequence of the motions at a standard rate of speed should be taught.
5. Have the trainee try the operation.
6 Correct any mistakes which the trainee makes.
7. Follow up, repeating steps 4, 5, and 6 to develop accuracy and speed, placing emphasis first on one and then on the other

Training starts with what the new employee *needs to know*. For literate workers, an up-to-date job description or list of duties is useful and important for technicians and supervisors. Since the knowledge and skills of individuals vary, the training should be tailored to the need. A method which works with one person may not succeed with another.

The more carefully the job has been studied in advance, the more effective the teaching can be, since the best motions and the correct sequence can be taught. Also, there should be a standard rate of speed. Even when the job has not been studied in such detail, the foregoing steps should be followed. How soon a second operation should be taught will vary with the job under consideration, but usually teaching it should start before the first operation is fully mastered, unless mastery of the first is required to perform the second.

It should be explained that *standard* methods are the best which have been worked out to date, but that improvements are constantly being made and that any suggestions the trainee may have in the future will be carefully considered.

Not too much material should be given at a time—"Don't feed him more than he can swallow." It is said that only about eight ideas can be taken in at one sitting by the average person. If much detail must be given, it should be carefully grouped under a few main points. To get the best results, it is necessary to cover details, but not to overburden the worker with new information.

It is important to correct errors as they arise so that they will not develop into habits. Correct working habits can be learned as easily as wrong ones ; but if the wrong ones are acquired first, the process of correction is far harder than proper learning in the first place, since the old habit must be broken and replaced with the good.

Aswani, the head of the accounting department. in a large company. secured excellent results in training Kumar. a new calculating machine operator, to do his work properly. Kumar was already trained in the use of his machine, but the work that he was to do in analyzing accounts was new to him

Aswani started by giving a brief explanation of the principles upon which the accounts were divided for analysis. and mentioned specifically the more frequent items Kumar would encounter. He told him that he·expected him to make some mistakes, as he would not learn all the rules before he started and that he need not be worried when he made them. Then he turned him over to the section head, Rajan. under whom he was to work. The latter explained a little more about the details of the operation he was to perform and then started him on some actual work. He checked work as soon as Kumar had done a moderate amount and found several errors The work was then

taken to Aswani who went over each error with the operator, explaining to him the proper handling

From time to time Rajan taught Kumar additional details about the work, but. Aswani corrected all errors promptly. In this way Kumar was not burdened with too many rules at the start. His errors were corrected before they had hardened into improper habits, and Aswani was able to keep close control upon his progress and to test the ability of Rajan as trainer.

The operator's record of errors was two or three a day for the first 15 or 20 days A month later he had reached a point where for 17 days he had not made a single error

Whenever possible the worker should be required to correct his own errors, thus learning to avoid similar mistakes the next time. If it is impracticable to have the worker correct the error, it should at least be called to his attention soon. One should avoid laying much emphasis upon possibilities for mistakes. For instance, it is poor to say: "Do not, under any circumstances, multiply the figure in this column by the one next to it, because this would give you an answer which would be almost twice as much as the correct one." Instead, one may warn against the error without suggesting it, by saying: "Be sure to multiply the figure in this column by the figures over here in the column headed...." There are plenty of ways to make errors, and most new workers will find many of them without suggestions.

The three main methods of learning operations are those of the eye, of the ear, and of the muscles (technically, the visual, the auditory, and the kinesthetic). People who easily take in impressions through the eye photographically can go faster than those who do not. The visual method improves with practice, and is very important for clerical work. When items on one sheet are to be checked with those on another, the quickest method is to match them by eye, without the intermediate steps of hearing the words or numbers in one's mind or forming them with the muscles of the lips, tongue, and throat. When facts are to be remembered, however, visual images can be reinforced effectively by auditory and muscular impressions. Repeating to another what one has read or seen facilitates memory, since saying words and hearing one's self speak intensify the perception of what one has seen with the eye.

A person speaks at the rate of about 100 words a minute, but can read English at 250 to 350 words a minute. It is very important in clerical jobs to learn the art of rapid reading, since so many clerical activities depend on reading and comparing data. Leedy's book on reading improvement is included in the bibliography.

A knowledge of the laws of learning is a help to the trainer, and perhaps to the learner. Let the worker know that it is normal for a person to learn a certain amount and then either to slow down in acquiring more skill or even to lose part of what one thought one had acquired. During this slowing down or slipping back, the trainer and the trainee are likely to become discouraged. In spite of no apparent progress, ideas and habits are being formed, but a certain amount of confusion seems to arise in the trainee's mind. Frequent reviews of principles may help the trainee to consolidate what he is taught and to reduce the extent of these "plateaus of learning."

One should invariably be careful to treat all the learner's questions seriously. Laughing at a foolish question is one of the quickest ways to cut off further inquiry and to complicate the training process. If you cannot help showing your amusement, turn the joke on yourself, and make it appear, if possible, to be because of a funny mistake in your teaching.

A trainer cannot assume that people will ask about what is not clear. Some will, but others will think that they "will catch on later to the reasons," and so will not ask ; and still others will think that they have a clear picture when a little questioning would show that in reality they have not.

Things which you may think are too obvious to mention may not be clear to the new employee. This is especially true of new terms or of new uses for old terms. Be sure that if initials are used, they are understood. The authors had to learn that the frequently used initials "P.I.B." in one company were equivalent to "M.A.Q." in another—a "Physician's Inquiry Blank" and a "Medical Attendant's Questionnaire."

Sometime during the training process the relationship of what is done to what goes before and what will follow later should be taught. It may also increase the effectiveness of the worker if he is given a picture of the work in the other departments, possibly by seeing it actually done.

We were once talking with a man who handled the reports from the agencies of life insurance premiums which were not paid by the end of the days of grace, a period of thirty days after the premium is due. A life insurance policy may then become invalid. The man said that when an agency wrote that it expected to get settlement from the policyholder within a few days, he would rush the termination through, as otherwise it might not be terminated when the money was reported as collected We suggested that a number of terminations could be avoided if he held such cases to see whether the agency did get the money. He said, "Oh, what's a termination ? It's easy to mark off the business and put it back on the books again !" He

had no idea that the termination alone would have to pass through the hands of twenty-seven different clerks and that the revival would be equally complicated

Sometimes a person can do much toward training himself by reading correspondence or other papers on past cases. This is a particularly good method for technical or semi-technical work and may be useful to a supervisor who is required to train a man while he himself is very busy. The new man might be given a hundred recently completed cases of the type he will learn to handle. After he has been given a brief explanation of the underlying principles and the requirements, he should see how the case developed, starting with the earliest paper or entry. After following several cases to their conclusion, he should study them and decide how he would act at each step had the case come to him. He then can compare his ideas with the steps actually taken and can ask about any action for which the reason does not seem clear. Not only does this method reduce the time required of the supervisor, but also it may result in getting useful suggestions from the new man on how particular types of cases might be better handled.

In addition to a study of past cases, it may be useful to have the subordinate read the current correspondence of his superior.

AGE AND TRAINING

Until actual physical deterioration sets in, age has comparatively little to do with learning ability, but habit has a great deal to do with it. Those who are forced continually to learn new things throughout life—like business executives, salesmen, and uncaught criminals—are in general better able to learn than the average university man who falls into ruts and does not have to adapt himself to many new conditions.

To those who quote the proverb "You can't teach an old dog new tricks," one may counter with "Never too old to learn." At present, the second one has the greater weight of evidence on its side.

A worker who has done the same thing from sixteen to thirty-six is about as hard to retrain as one much older who has done the same thing for twenty years. In the interest of the organization and of the workers themselves, care should be taken to see that they are faced with new situations from time to time in order that they may retain their learning and adaptive powers. If this has not been done in the past, it may still not be too late to start it even with workers above sixty years old. They could hardly be expected to revive their learning and adaptive capacities in a very short time, but they should be capable

of gradual revival if they are properly handled.

Modern conditions are changing so fast that it has become an important responsibility of the supervisor to keep his employees from falling into a groove. A change in methods or an advance in technique can make almost any specialized job obsolete. In order to maintain an atmosphere where change is possible without ruining the lives of people, it is of great importance that personnel be kept adaptable. The easiest way to insure this is continual adaptation—rotation—job broadening—as discussed in other chapters.

Even those who are very "sot in their ways" can accommodate to new challenges.

The coming of automation in a large division of a government department created great apprehension. especially since a number of clerks had been doing the same routine, repetitive clerical work since World War I. Many of the clerks were moved to other divisions as vacancies developed. Finally it appeared that the remaining ones had to make their choices, to retire on reduced annuity, to find their own jobs elsewhere, or to learn new skills. They were told that if they would learn typing they would be able to transfer within the department without loss of grade and pay. Many of them took training in typing, either from the beginning or in a refresher course, and backed up by their supervisors and the personnel office were able to qualify for new opportunities. Some however chose to retire None was laid off

Most large organizations have some persons who are below normal mentally. They are a challenge to the supervisor who is interested in people. If he can fit them into a job where they will be productive and self-supporting, he will not only carry out his immediate job as supervisor but he will also do a real service. Such subnormal persons often make satisfactory routine workers and may be placed appropriately in blind-alley jobs.

WRITTEN INSTRUCTIONS

A number of companies have prepared written instructions or "Standard Practice Instructions" on how to perform their various jobs. They are designed to be a guide to the supervisor and worker and to cover all the common and most of the exceptional procedures. Sometimes they are used instead of other training methods.

A group of supervisors mentioned the following advantages of written instructions:

Help memory.
Cover technical instructions

Relieve supervisor of questioning.
Encourage standardization and uniformity of practice.
Insure against omissions in training
Preserve a record of previous practice, which may be useful after a change has been made.
Fix responsibility.
Help training for peak loads or illness
Save supervisor's time.
May include explanation of reason for operation
Provide means of guarding against error or carelessness at especially important points.
Preparation of the written instructions frequently leads to improvement in methods.

The following disadvantages were mentioned by the same group of supervisors:

Create a tendency not to remember.
Take much time to prepare
Hard to keep up to date.
Must be exceedingly accurate or will lead to errors.
Too voluminous if they cover every situation which may arise
Cramp initiative if followed too implicitly.
Judgment is needed in determining which instructions apply to a particular case

Some oral instruction is generally advisable when an employee starts on a new job. The principles behind the work should be explained, and the reason why it is required should be given. The oral method may be helpfully supplemented by written instructions, summarizing the principles and giving the detailed method of handling individual cases. A particular value attaches to the written instructions for jobs performed only at infrequent intervals. The day-to-day routine, once learned, will not be forgotten; but the exact method for handling occasional jobs may be.

In some instances, the instructions are little more than a check list of items to be considered in doing the job; in others, they may be elaborate descriptions of the details of all the common and most of the uncommon aspects of the work. Particular persons should not be referred to by name. Reference should be to the job they hold, so that, if their work is changed by promotion or otherwise, the instructions will still be correct.

One way of getting a groundwork for instructions is to have each person prepare a list of his duties and a brief description of how he performs them. Although such lists will be especially useful to the supervisor

during vacation seasons, it is best to have them prepared at some other time. If prepared just before salary increases or promotions are to be decided upon, the employee will probably emphasize the number of different things he does, whereas just before his holidays he is likely to minimize them.

It is sometimes surprising how many points need to be covered in training a person thoroughly for even a relatively simple job. A group of supervisors was asked to list the details and responsibilities in which a new bookkeeper should be trained. At the first meeting twenty items were listed; a week later thirty more items were added; and finally three hundred were included.

Written instructions may be prepared by the supervisor himself, by someone under him, or by a planning department. Their preparation almost always involves a consideration of why the work is done and whether it is done in the best way.

Much time is required to prepare written instructions and also to keep them up to date. Simple, general instructions, maintained up to date, will usually be of more value than detailed instructions which are allowed to get out of date.

In order to show some of the difficulties of preparing and following written instructions, we have given the following instructions with minor modifications to several groups of supervisors Seldom does one out of five follow them correctly. In order to try yourself out you need only a sheet of paper and a pencil Figure 2 shows a sheet correctly marked. Look at this after you have tried yourself

Draw two lines across the top of the sheet each about half an inch apart and the upper one an inch from the top Draw two lines along the whole left side in similar relation to the edge Write the word *United* in the upper left space, and the word *States* in the upper right space Write a small script letter *d* upside down in the smallest space. Fold the paper three times. Write your last name on outside.

Frequently the supervisors turned their paper upside down in order to write the small script *d*. Few realized that they could write a small script *p* right side up Many put the words in the wrong places, sometimes as a result of drawing the lines improperly. One of the most frequent errors was that the paper was folded twice (into thirds) instead of three times Even when folded three times, several different sizes of finished product were turned out The written instructions did not specify whether to fold lengthwise, crosswise, or both

Instructions substantially like the above were given to three groups of supervisors in a large life insurance company. We found that five out of nineteen in the first group followed them correctly, four out of eighteen, in the second group; and only one out of sixteen, in the third group The best

score was made by the junior group and the poorest by the senior. Of course it would be unfair to generalize from one such sample but the result is in keeping with the theory that the further up a supervisor is in an organization the more thorough in general are the explanations given him and the more he uses his own head. The junior supervisors some of whom spent most of their time doing individual work were more accustomed than the seniors to being told to do a thing and to go ahead without knowing just why. The seniors appeared to be trying to get some reason out of the instructions and since there was none they had difficulty in following them.

Figure 2. Correct Result of Following Sample Written Instructions

The many misinterpretations of the simple instructions given above and the failure to be specific about the detail of how to fold the paper illustrate some of the difficulties of preparing written instructions. To test proposed instructions, try to follow them yourself, noticing any places where the wording is not exact. Then get someone not familiar with the job to do it from the instructions while you stay nearby to see what difficulties are encountered in interpreting the directions.

Written instructions help to secure uniformity of practice. They are an undoubted aid in training and for holidays and substitutions. They

avoid unnecessary questions and eliminate many excuses. Their disadvantages are that they require work to prepare and to keep up to date and that they are sometimes too rigid and may discourage initiative. No job is too complicated to be covered by them, but they may make the job seem much more complicated than it really is.

PRODUCTIVITY AND TRAINING

America's high standard of living as shown by its Gross National Product, the total value of goods and services produced in any one year, has trebled in the last fifty years. The reasons are many, but one principal factor is increased individual productivity. The things which motivate people to higher productivity are found to be work methods, interest in the job, kind of supervision received, and the human relations climate existing among the work group itself. Training workers to improve their skills and to make their job more satisfying affects their productivity directly. Careful planning by a supervisor to use training in his daily work will make his job easier and supervision more effective. He also can more likely reach the standard of individual productivity expected by management.

Recent research findings in the field of productivity, supervision, and morale show the close relationship between the type of supervision received and the productivity of the worker. Although training is given staff in better work methods, supervisory practices, and special job knowledge, there is a constant problem of helping people to carry out what they have learned. Unless the training given is directly related to the needs of the worker and is acceptable to his boss, the chance of its being effective is slim. Training is effective only when it results in the desired changes in worker behaviour on the job or when it increases his capacity and ability in some way. *A supervisor must frequently reinforce a worker's desire to use the training.* He does this principally by praising him, telling and showing him how to improve his work methods, and by carefully following up without taking from the worker his responsibility for results.

To maintain worker productivity the supervisor should continously feed back to the worker information and knowledge which he can use currently for his self-development. No one can change another person. We can only change ourselves. Training is a means of creating a favorable situation for a person to introduce change in himself. It enables a supervisor to develop in workers good attitudes toward work and the enterprise. But to do it well a supervisor should provide in his daily operations conditions where the worker can express himself easily. By

providing opportunity to accept responsibility, make decisions, and take actions, he prepares the worker for promotion. Thereby, through training on the job, a supervisor helps each person to reach his total potentiality and make the most of his ability. Training helps each worker also to find his place in the establishment and to identify himself with its goals.

Other Personnel Duties

We have learned that the human being is the central, the rarest, the most precious capital resource of an industrial society. This shows in our new concept of the industrial enterprise as an organization of people, as a social institution. It shows in our concept of management as the coordinator of human efforts.

Peter F Drucker in the American Round Table of *Basic Elements of a Free Dynamic Society*, the Advertising Council, The Macmillan Company, 1951, page 15

I believe the greatest assests of a business are its human assests and that the improvement of their value is both a matter of material advantage and moral obligation; I believe, therefore, that employees must be treated as honorable individuals, justly rewarded, encouraged in their progress, fully informed, properly assigned, and that their lives must be given meaning and dignity on and off the job

Clarence Francis "Hippocratic Oath for Management," *Modern Industry*. July 15, 1948, page 33

In what areas does a supervisor need to practise his skill in human relations, a skill built on the democratic philosophy of the worth of the individual? Among his multifarious roles, the supervisor must utilise his skill in acting as:

a *consultant*, giving technical knowledge, and stimulating effectiveness and the maintenance of high standards.

a *counsellor*, in understanding basic needs and motives in helping to solve individual problems.

a *representative* of higher authority translating policies and procedures into operative functions, keeping records, and helping to evaluate the progress made in meeting the organisation's objectives.

a *coordinator*, stimulating teamwork and rearranging situations so that the incentive is strong and the morale high

M Nainie, "Human Relations in Supervision". *Indian Management*, March-April 1964, All India Management Association New Delhi, page 28

JOB CLASSIFICATION AND MERIT RATING

Fairness is basic in building up morale and in developing an effective organization which gets the most from its members and gives them satisfaction in their jobs. Good will and good intentions, however, do not invariably lead to fairness and justice. In an organization of only four or five persons, familiarity with the important facts in each individual's situation is comparatively easy, and fairness may be based upon individual consideration. As the size of the organization increases, the difficulties of knowing the individual situations increase very rapidly. With a couple of hundred persons it is hard for higher management to consider each case on its merits or to learn what those merits are. Different supervisors vary considerably in their ability to impress that management with the importance of work done by people under them. Some supervisors may have such high standards that they rate even good workers low; others may be so lax that they rate poor workers high.

Generally speaking, pay rates are not set logically according to the actual service rendered, but are based on competition and custom Naturally the amount paid by competitors for employees of a particular type is a factor which must be considered. In addition, some types of occupation are regarded more highly than others by the community, so that jobs of less intrinsic value may be rewarded better than more skilled work.

A number of companies have tried to construct a logical classification of jobs, to provide, as nearly as possible, equal treatment in salary and privileges to persons doing work of equal value. Jobs are therefore arranged in groups of approximately equal difficulty or value on the basis of factors such as the mental qualities demanded, what type of decisions need to be made and how often, what contact is necessary with other employees and with the public, what financial responsibility is directly and indirectly involved, and to what extent supervisory ability is required.

The authors do not quote here the details of any plans for the classification of jobs because the subject is a specialized one which in many cases is left to the personnel department. In the United States, the federal civil service and many state merit systems use detailed classification plans for administrative, technical, clerical, trades, and other employees.

A satisfactory classification for clerical jobs is one adapted by H. E. and M. C. Niles from M. A. Bills and published as an appendix to M. C. Niles, *Middle Management.* The Life Office Management Association has also done much interesting work on job classification.

Classification is most valuable when the positions in many or all departments of an organization are classified. The job should be graded regardless of the capacity of the particular individual or individuals holding it. Afterwards the individual should be rated according to his performance on the particular job he has to do.

Merit rating is important in directing attention in an analytical and comparative manner to the qualities and attainments of employees. Those who rate and those who use the ratings focus their thinking on points which are essential to the success of the person in his job. They see each individual's strong and weak points. Rating is especially important as a basis for fair salary recommendations. An increase of pay is regarded by most employees as a definite expression of the estimate their employers make of them.

Frequently, the form of rating is determined by the personnel department, which may also handle the difficult problem of putting into their proper relationships the ratings made by supervisors in different parts of the company. Some supervisors rate strictly; others leniently. It is unfair to the good worker to rate a poor one high. Such actions tend to make the rater's superior discount what he says about the really good workers.

A number of rating scales have been tried, varying from simple to complex ones. Some attempt to rate the person on many different characteristics; others on only two or three. Some provide for ratings as a percentage of average or a percentage of the ideal; others compare the standing of the employee with that of others in his group. Most rating scales attempt to give some picture of the personal traits of a person as they affect his position in the company. They go beyond a mere record of quantity and quality of production, although they should be considered in connection with such records.

Often office work is not measured even when it could be done simply Volume, alone, frequently is not a sufficient criterion. Quality needs to be considered along with quantity. For some jobs a person with 1 per cent errors, doing twice as much as another person with 0.1 per cent errors, may be more valuable, and in other jobs less valuable, than the second person. Furthermore, even with high quantity and quality, an intangible factor such as willingness or loyalty may be lacking.

Some of the better rating scales use questions and phrases of action type to describe the factors to be rated. For example, for the question,

"Does he catch on easily or does he need repeated instruction?" the answers may be subdivided to indicate:

Learns   Catches   Learns   Needs   Dull
very   on   without   repeated
rapidly   easily   difficulty   instruction

The supervisor can then check off the appropriate spot on the scale. . Instances to support his judgment may also be called for.

The selection of qualities to be rated and the definition of each vary from company to company. A device for covering certain essential qualities is as follows:

If employee falls down on one of the following qualities, please check, and give comment

    Neatness in personal appearance
    Neatness in work
    Punctuality
    Honesty
    Courtesy or refinement
    Tact
    Cooperation with others
    Knowledge of his job
    Sufficient intelligence for his job

Has he an unusual degree of

    Tact?
    Adaptability?
    Teaching ability?
    Proficiency in his work?

In some companies each person is rated on his anniversary of employment or transfer. In other companies, all persons in a section are rated at the same time. Thus the contribution of each individual is evaluated in comparison with others.

The rating scale is useful in dealing with transfer and promotion. When an employee shows distinct growth in successive rating periods, advancement should be sought for him. Contrariwise, when an employee shows arrested development, stimulation is needed and may be applied by talking things over, by modifying the work, by transfer, or by further training.

If you have not recently rated. the employees in your department, group together those whose jobs appear to you to be of about the same difficulty or value. Then rate the people in each group and arrange them within the groups according to their ratings. Then, and not till · then, put their pay rates next to their names. Do not be surprised if there are some inequalities but do what you can to correct them with reasonable speed and try to prevent similar inequalities from developing. You may be unable to remedy past mistakes, but you can take a part in controlling future ones.

PAY STANDARDIZATION

Plans of pay standardization are attempts to be fair about remuneration. They aim to overcome the difficulties that arise from the different habits and outlook of different supervisors and from other factors which sometimes cause one employee to be paid much more than another for substantially the same grade of work. Usually the plan of pay standardization is largely determined and applied by the personnel department. It is closely linked with job classification since the basis of most pay standardization schemes is to pay salaries within certain ranges for jobs of particular classes. The actual compensation of any individual on a job of a particular class is determined according to that person's rating and length of service.

Theoretically, no one should be paid more than the maximum set for the position. Sometimes pay standardization plans have been applied too rigidly, and the range of pay for any particular job has not been sufficiently high to provide at all fairly for the exceptionally good worker. Some excellent workers turn out two or three times the work turned out by poor workers and yet the maximum salary may be only 25 per cent above the minimum for that class of job. Of course, the better workers could hope for promotion to a higher grade job if they kept on working well and if length of service were not allowed too much weight in determining advancement.

The practice of one company in having a maximum and a "high maximum" seems wise. Not over 5 per cent of the workers may get the high maximum. Some may be ready for advancement, but there may be no openings. They may go elsewhere unless they are paid as much as they would be worth to another organization. Regardless of competition, it is worthwhile to keep morale high by rewarding excellent work appropriately. Salaries and wages up to the high maximum are allowable for these workers without considering them exceptions to the general scheme. ·

PROMOTION

Promotion may be determined by length of service, by practical ability as shown by quality and quantity of work performed, by the general attitude or loyalty toward the company, or by other manifestations of superiority. It may also, unfortunately, be determined by personal likes and dislikes, by company connections, or by family relationships. Several of these factors may have weight simultaneously.

Practical ability and productivity are frequently difficult to measure in clerical work, and often, even where they could be measured fairly well, they are not; general attitude, sound judgment, cooperation, leadership, and loyalty are almost impossible to assess. Nevertheless, promotions should be determined largely by these factors to create the most effective organization. Promotions based on other factors may result in partial or complete failure of the company and its morale.

Some employees fail to secure a promotion because they lack the factors mentioned here or because there are reasons to think that they may not stay with the enterprise for a period sufficiently long to justify training them for and introducing them on the higher job. Others miss promotion because of personal appearance or outside habits which are not approved by the management or because of simple prejudice. Sometimes this prejudice does not exist in the minds of the superiors, but it is recognized as existing in the minds of the rank and file and it has to be considered by those responsible for the smooth running of the organization.

Generally the recommendation for promotion is made by the immediate supervisor with the concurrence of his superior and, in a large company, of the personnel department which sees whether others in the company might be promoted more properly, and whether the recommendation looks sound.

A policy of promotion from within the organization may increase the morale of the members of the staff, but it sometimes makes them too content. The right man should be found for the job even if it is necessary to go outside the company. Bringing in an outsider now and then to take a responsible position often has a very stimulating effect upon the insiders, both by making them more alert to prepare for the next promotion and by the fresh viewpoint of the outsider. The outsider, however, should have demonstrably good qualifications for the job.

The relative of an owner or of a Minister should be placed only where he fully meets the qualifications; otherwise the "nepotism" will affect the morale and productivity of the whole organizational unit or enterprise.

Considerable care should be taken in deciding whom to promote.

Some persons who are excellent in a particular job may be poor in the one next above.

In a large company, a clerk for some years had been doing his job far better than the previous clerks The supervisor wished to secure an increase in pay for him, although he was already at the maximum for the class of job The personnel department refused to grant this unless he were promoted to a position carrying a higher maximum salary.

Since the next higher job involved contacts with others, the supervisor felt that the particular clerk would not be able to handle it well. Nevertheless, since the policy of the company was to follow a carefully laid-down line of promotion, the personnel department insisted that the excellent clerk be promoted when the higher job became vacant. This was done, with the result which the supervisor feared. The clerk was not only unsatisfactory but also very unhappy. The situation was so bad that the supervisor felt that the only remedy would be to place the clerk in another company.

In this instance the supervisor was not at fault, but a system was being applied too rigidly Someone else should have been selected for promotion and an explanation given to the clerk who was in line for it. ·

Frequently, when a person in a senior position is promoted, a number of promotions are possible so that several persons move up a little, and a new person, if needed, starts at the bottom. Making many promotions out of the necessary one often has an excellent effect upon morale, assuming that favoritism is not suspected. The supervisor should explain carefully to each person who may have expected promotion why he was left at his old job. The shock of having someone advanced ahead of him may be enough to pull a person out of the rut. Care should be taken not to let a disappointment spoil his value. Properly used, a promotion can be an effective tool of personnel management in dealing both with those promoted and with those left as they were.

Some junior officers were discussing a particular worker. One of the officers said that he thought the worker was disappointed at not having been given a salary increase and was becoming bitter. Another officer said, "Oh, the fellow wasn't interested enough to see that he got a raise."

Another officer said that a worker is often caught between the dilemma of: (1) not asking for a better position and not getting it because he is thought to be too dumb to ask for it and (2) asking for the position and not getting it because he is thought to be too grasping

During holidays or absences a person may be tried out on work to which it is hoped he might be promoted. Such a temporary promotion gives the supervisor an opportunity to get an idea of how well the person

might do. It may avoid the disappointments which sometimes come soon after a permanent promotion goes into effect.

Training for promotion and transfer is just as important' as training a new employee. Similar methods are applicable. The person's interest and ambition must be aroused so that he will want to learn. When he begins on the better job, he should learn a part of it at a time. After the necessary explanation, the learner may be given the duty of going over the work after the person who is doing it has finished and before the checker gets it. The learner should attempt to check the work, but the supervisor should not rely upon this check. After the learner seems to understand, he should act as the doer part of the time, then full time

A simple method for transfer and promotion was devised by the head of a division of ten women. On analyzing the work within his division, he found that the ten persons performed forty separate tasks. He listed these with four columns opposite each item, headed "Date begun," "Date done regularly," and "Date attained proficiency." In a final column the date was entered when the person was entrusted with inspecting the work of others. When a new worker came into the department, she filled in the dates herself in all the columns except that headed "Date attained proficiency," which was filled in by the supervisor when convinced that the individual justified this rating. The workers knew what tasks they had ahead of them and took an interest in seeing how soon they could learn them all. This is a very good method for developing understudies since only part of a job is learned at a time. During an absence, the duties may be divided among the various workers.

UNDERSTUDIES

Organizations are not static. Changes in personnel on account of old age, accident, sickness, death, and other voluntary and involuntary resignations create some of the most difficult problems of organization engineering. It would be relatively simple to build an effective organization if one could secure as detailed specifications about the capacity and durability of each person entering into it as for an alloy steel or a chemical dye. The average organization is faced continually with the risk of sudden loss of any employee, from the most important to the least. Preparedness to fill all openings as they arise with properly trained personnel is an ideal that is approached in varying degrees but seldom attained. Understudies may be trained for the various jobs except the lowest. When a senior leaves, someone is ready to succeed him. The person promoted is replaced by someone else, who has been trained as his understudy, and so on down the line until a new person is taken on

for the lowest type of job in the series.

Such a procedure may not always work; for instance, it may be undesirable to start university graduates as office boys. Sometimes, also, an understudy can be provided only at considerable extra expense. As an example, punch card machines are rented by the month, and there is pressure to keep the rentals at a minimum. It may be impractical to have an extra person on the payroll and require the extra machines. When an understudy is not provided, a plan for securing a replacement should be ready; for example, getting an experienced worker on a temporary basis from the equipment company.

For every important job, at least, there should be in the enterprise a person ready to take it over and conduct it with reasonable satisfaction. It is not necessary that each key man have just one understudy, nor that his job should fall in its entirety on some one other man. Especially in a growing enterprise, two or more persons may understudy a particular man, so that when he leaves or is away his work will be divided among them.

The "three-position plan" of developing workers is often desirable. Under it each person is learning a job above his present one, is doing his own job, and is teaching his own job to a junior.

Within a department, the supervisor should aim to have sufficient understudies for the work to be carried on reasonably well in holidays and in periods of sickness or peak loads. One test of whether the understudy situation is satisfactory is whether the routine matters which each person normally handles get done by someone junior to him when he is away. If they are loaded upon those above him, the situation probably is not good.

The supervisor should be especially careful to develop understudies for his own position. An incident like the following is not an unusual occurrence:

The X Company decided to establish a new department The managing director was discussing possible men to head it. "Mr Gandhi seems to have a very good general knowledge of this business and to have a good personality. How would he be for the job?" asked the consultant who had suggested the department.

"Fine," said the managing director, "but we can't use him there He hasn't developed anyone to take his place."

"How about Mr. Bhagat? He also seems good for this work," suggested the consultant

"He's good too, as good as Gandhi, but we can't give him the job either because his assistant is not yet ready to take his place What do you think of Mr. Shastri?" said the managing director.

"Well, since I haven't seen so much of his work, I may be wrong, but I think that he would not be so effective as Gandhi or Bhagat"

"I agree with you. However, he has developed Mr Pandit so he can take over his work and do it just as well as he does—or maybe a little better. I think we had better give the promotion to Shastri, even though he won't do as good a job on it as Gandhi or Bhagat Moving Shastri up won't disturb the organization, even though it may disappoint Gandhi and Bhagat I'm in favor of promoting them just as soon as they develop someone who can take their jobs"

Shastri got the advancement

A distinction may be drawn between developing an understudy to provide relief for someone else during absence, and to replace him if need be, and delegation to an individual who will definitely take responsibility for the continued performance of tasks formerly done by his superior. Often it is hard to get an assistant to assume responsibility. He will make his decisions with more care if he knows he will be backed up in them.

A man who came to a company as a director said to his assistant who had been with the enterprise a number of years.

"Mr Ram, you have been coming to me with a lot of questions I have asked you each time what you thought should be done before I gave you my opinion I have been keeping a record of your questions and our action You have asked my advice on 117 matters in a short time In all but one of the cases I would have handled the matter just the way you suggested. In other words, we agreed upon how to handle over 99 per cent of the cases without even discussing them Now I want you to go ahead and make up your mind on these things and act accordingly. Don't ask me about them unless they are particularly important, or unless you want my advice because you have some real doubts about action I will take the chance on the 1 per cent of the cases where you may not act as I would"

Mr. Ram was convinced that his judgment was similar to that of his chief, and he assumed the responsibility for many matters which had taken up the time of previous directors

Many executives find that the problem of building an organization is their most important one. A person with technical skill and individual excellence is easier to find than a man who can develop others and delegate work in such a manner that it is well done and that he himself is freed for broader duties.

TRANSFER

A frequently underemphasized area of personnel work is the transfer

of persons from one job and from one department to another without any promotion or demotion.

There are many valid reasons for transfer, namely, to:

> Prepare the employee for promotion through enlarging his knowledge of the company and increasing his competence through broader experience.
> Build a versatile work force.
> Gratify the ambition of an employee to try work of another kind.
> Take him out of a blind-alley position and place him in one where there are chances of promotion
> Save the adaptive powers of workers before they get into a rut.
> Give the employee a change because his work has become monotonous (even on a creative job a person may become stale and may profit from placing his attention on a new set of problems).
> Adjust work of employee for health reasons.
> Adjust personal relationships when there has been a lack of harmony
> Correct an erroneous placement.
> Meet an increase of work in one department or a decrease in another.
> Adjust to reorganization of function or activity.
> Adjust to obsolescence in a certain type of work.

Not everybody can be promoted, but almost everybody can continue to grow in competence and knowledge. When you cease to grow you begin to die. Every supervisor has as one of his most important responsibilities the growth of employees and the maintenance of their flexibility.

Studies show that older workers have good work records and perform well. They are dependable and have longer job tenure. They quit jobs less often than do younger workers. However, they often have a harder time in finding employment when they are out of work.

The authors stress in this book that employees should be given an opportunity, if they want it, to broaden their responsibilities and skills. Usually it is possible for the work to be rearranged so that they can progressively learn to handle more tasks.

Two sad groups may be found in almost all companies. Some workers have become stale through monotony or lack of opportunity. Others have become too set to readjust to changed conditions, although their work would have remained satisfactory indefinitely had not the system or the personnel around them changed. The problems involved are partly psychological, partly technical. They can be solved only by foresight and constant attention to the position each worker holds at each stage in his career. The advent of a new machine may disrupt the work of a number of people. The change in type of leadership in a department or division may upset the personnel concerned, even though, abstractly,

the methods used may be equally suitable. Business, like life, is fluid and everchanging, but it does not change at a uniform rate.

If the management wishes to retain the elasticity of youth in its stable workers, it must furnish enough variety and novelty to prevent them from becoming incapacitated for new experience. This is particularly important as the size of the enterprise increases. The rapid development of work improvement and automation is new cause for emphasizing this point.

A group of supervisors in an enterprise where growth had slowed up gave an interesting reaction to transfer.

The fact that the company is not expanding as much as formerly is creating a problem for trained men who are able to handle better work, but for whom no promotion is available Various methods of meeting this were suggested, among them the possibility of transfer of such persons to other work in the same or in another department. The reluctance of the supervisors to give up a good man might be partially overcome if they were sure of getting another good man in return One of the members of the group said that the energy of trained persons should be used to solve problems, either on their immediate jobs or in another department. They are quite likely to suggest improvements when they are transferred to other work, because they bring a fresh point of view with them Their suggestions should be encouraged, even when they arise from lack of understanding Too often employees do not question procedures on a new job because they think they will catch on to the reason. Later they forget their surprise, and continue to do what at first appeared unnecessary

Although it is the policy to shift new employees around the company for training before placing them permanently in a department, someone suggested that the contrary policy of transferring senior men would develop persons more able to benefit the company. A combination of the two ideas may be even more valuable: that is, a groundwork may be obtained by the shifting of juniors, and then a later transfer made to broaden the point of view. Thus the good men in a large company would receive advantages which accrue naturally in a small enterprise

One of the officers of the company had had a policy of shifting the clerks around as soon as he got everything running smoothly. He wanted to be prepared for emergencies and to have the employees familiar with many jobs.

When a worker is transferred to another department, if he is better than average, objections may arise from the losing supervisor; if below average, from the gainer. Often the average person is not transferred at all. The unsatisfactory workers are likely to be transferred most frequently. Sometimes many of them land in one department with a supervisor who easily gives in to pressure to take a poor worker. He may yield because he is weak or because he puts the interests of the

organization ahead of his personal convenience—a fact which may be forgotten by executives who later blame him for poor work.

The misfits from the other departments in the office of the company were sent to Mr. Gupta, the head of a department doing mainly simple filing. He accepted those who were sent to him, without making any inquiries as to why they had been sent, and he tried to rebuild their morale. When the clerk first reported to him, Mr. Gupta would say. "You have been told to report to me this morning. Now I don't know whether your work was good, bad, or indifferent where you were, but here you start off new. You have been sent to me because the personnel department thought you could do this work. Now it is up to you. We are a happy department, and we are glad to have you. There is room to rise here. We have to have quick and accurate work to serve other departments There is important work to do here, and all the time they are taking the good people away from me to advance into other departments. We have a kind of training ground."

Mr. Gupta found that he sometimes got satisfactory work from people who had never done it before. "Sometimes I get a break through other people's mistakes," he said. "For instance, Mr. Venkatram is fine. I can't imagine why they sent him to me—but some people just don't know how to supervise However, I had to let Mr. Das go He talked all the time, was lazy, and would not cooperate I don't think it has hurt the others, though of course when they come here they are afraid they are on their way out."

An effective personnel department may frequently suggest transfers in a large enterprise, some of which will help the supervisors immediately, whereas others will be a handicap. However, the policy of frequent transfer, including good and average workers, has many advantages to the enterprise as a whole, and in the long run will make the supervisors' jobs easier to perform well.

TURNOVER

Every time a qualified office worker leaves a company it costs a substantial sum to replace him. In the United States, even a minimum figure of the cost is $ 300 and not uncommonly it is closer to $ 1500 counting the necessary interviewing, hiring, placing, and training of a replacement. In India, the cost is almost equivalent. In any case, every satisfactory employee represents a sizable investment which the company has made in his placement and training. Yet many times good employees leave who would probably remain if the conditions were more satisfying to them.

A study by the American Management Association in 1955 showed that 20 per cent of office clerical personnel turnover was caused by poor selection and initial placement. Improper hiring standards were used. Skills of the workers were not fully employed and there was general dissatisfaction with the caliber of supervision.

It is well known that turnover is heaviest during the first six months on the job. A supervisor can save trouble for himself and money for the company by hiring only those persons who appear to be good risks for the jobs available and by taking care to see that the people he does hire are fitted in to the advantage of themselves and of the office.

Some of the causes of quits cannot be controlled—death, retirement, transfer of the head of the family to another town, leaving to have a family. Many other causes of leaving can be controlled—especially the dissatisfactions which give rise to restlessness. These fall to a low point when the supervisor makes work interesting, pays attention to the needs of workers for recognition, cultivates a team with a sense of worthwhileness in their work, and aids workers in securing training and experience which add to their chances of promotion. The employee who is helped to grow may not remain in the supervisor's unit but often retains a permanent loyalty to the company.

DISCHARGES AND LAYOFFS

Even though turnover is costly, it is still more costly to retain people who are not effectively contributing to the department.

Discharges are of three general types: layoffs, dismissals for incompetence, and dismissals for improper behavior. All three may involve discussion with labor unions and sometimes adjudication by labor tribunals.

Layoffs among blue-collar workers are more common than among clerical workers. Traditionally, clerical people have expected continuity of employment. Their ties with management are frequently closer. Layoffs are seldom made, even when work drops off, without careful consideration by management. When they are necessary, those with the shortest service are usually released first. However, the layoff may occur after a period of shortage of qualified workers when persons with low ratings were kept because of difficulty in securing replacements. In such an instance the least satisfactory might be released.

When it is possible to reduce the number of jobs through better machines or methods, many companies either knowingly keep more employees than are needed or they postpone installation until natural turnover has reduced the number of employees or other work opens up for them.

Many companies make real efforts to keep their long-service employees and to help any surplus employees to find positions elsewhere.

Many management officials have stressed that employees have little or nothing to fear from technological improvement or automation. One reason is that it normally takes a year or two to plan the system and to get delivery of the machine. The actual installation usually requires considerable manpower because of overlapping of the old and new systems. It is therefore common for managements to announce that all employees rendered excess will be placed in other positions in the same or another establishment. This policy recognizes management's social obligation as well as the effect of security on the morale of members of the enterprise.

In practically any case of dismissal the supervisor is expected to discuss the situation in advance with the labour office and with his own superior. It is usually harder to fire an individual than it is to hire him because of the obligation of the company to treat its employees fairly and because of the impact on employees, on labour unions, and on the public of any trace of unfairness. Usually the supervisor's recommendations on discharges are followed; at least he may normally refuse to keep an individual in his unit. Sometimes, however, the individual may be placed elsewhere in the company. Thus the supervisor maintains his own responsibility for the work committed to him, but the company maintains a common treatment of employees across all organizational lines.

The commonest type of dismissal is that of new employees who do not measure up to expectations. Even though employees have been selected and trained with care, some mistakes are bound to occur. Those who are not satisfactory should be weeded out in the early months of employment, certainly in the first year. In types of employment where there is a shortage of qualified persons, you may want to give the employee the benefit of the doubt. Remember, however, that it is kinder to drop him soon rather than late. The longer a necessary adjustment is postponed, the worse for the individual and for the company. A prospective employer does not regard seriously an unsatisfactory record of a few months but inquires carefully into the cause of leaving after a stay of several years. Quite often the employee is not satisfied, but he hesitates to take the positive step of hunting for a new job. He may even hope he will be discharged, since he could then blame someone else for the need of making a new adjustment.

A particular person may be a misfit because of individual reactions which would be quite different in another environment. Perhaps you and he do not mix well. That need not reflect on either party. Or he may not get along well with other workers because he is too young, or too

intelligent, or too stupid, or because he holds strange political views, or for any one of dozens of other reasons which have nothing to do with his efficiency. If a person with an active temperament and good mental capacities is put on work requiring little use of his faculties, he is likely to be dissatisfied. He may leave the organization voluntarily, or he may try to get an outlet for his ability and some satisfaction for his desire for action by seeing how much fun or trouble he can stir up.

One of the most capable women the authors know was once discharged for misconduct by a large company which gave her a routine job that did not interest her. As we recall it, throwing spit balls and pinning impertinent notes on the back of her supervisor were the immediate causes of her dismissal. She later held a very responsible position

When you are faced with an unsatisfactory employee with considerable service with the company, you should of course analyze the situation carefully to see what more you could do to turn the situation into a satisfactory one. As someone has said, "Don't fire—refire." On the other hand, a person who does not perform up to standard is a drain on the unit and most likely weakens morale. This is especially so if he does not appear to be trying or if he is considerably under par. People feel foolish to work hard for little or no more reward than is given to an unsatisfactory person. Analyze the situation carefully, then talk with the people in the personnel office. Perhaps they can place him to good advantage. If not, then you have to decide whether you think you should terminate the relationship.

An officer mentioned that a certain supervisor lacked judgment in dealing with people, but that when one talked with him he often seemed to be very good. "You know, he's something like a gear with 60 teeth—58 of them mesh accurately and smoothly but the other 2 are bent, and you can't get a good running machine with a gear like that." Eventually he was dismissed.

Before taking action, you will wish to consider the effect of discharge on the morale of the group. When work is measured and the output of each worker is posted, the transfer or discharge of a worker with a very poor record is usually regarded as entirely fair and demands no special comment.

The following instance shows some of the morale difficulties of discharging a man for cause.

Mr. Sen was fairly well up in the organization. He appeared to be doing

good work although he did not mix well with certain other persons and it was an open secret that he got along poorly with the boss.

One day the boss learned that certain hints of improper conduct with the customers of the concern were well founded. If contacts with the customers were denied, there would be no job left for Mr. Sen His resignation was requested, on the ground that his personal morals were unacceptable to the customers.

The boss was kindhearted and kept confidential the cause of the discharge, merely announcing that Mr. Sen was leaving on a certain date. Mr. Sen took advantage of the situation and told his friends in the enterprise a story of unfair treatment and injustice which had led to his resignation. Two of his friends, who did not know the real truth, were so incensed by Mr. Sen's story that they considered resigning and hunting for jobs in a fairer enterprise, or at least in one where there was "less hypocrisy about fairness." After some weeks of growing discontent in the enterprise, the boss finally realized that Mr. Sen was not·playing fair. He then told some of the key men the whole story. This cleared up the situation quickly, but it never restored the lost production of the weeks of discontent.

Fairness alone may not be enough to maintain morale. Although in the above incident the boss was not only fair but even generous, people knowing only that the boss and Mr. Sen did not get along well together readily accepted the story of discrimination. It would have been better to discuss the matter with some of the influential colleagues, saying perhaps that the reason was more than sufficient to warrant the discharge, but that it would not be given unless stories of unfairness began to circulate.

The effect a discharge may indirectly have on the public must also be considered. The dismissal may be so tactfully conducted that the employee feels the company is fine and has done the fairest thing in suggesting he look elsewhere for work. On the other hand, he may bear a grudge which will influence his friends against the company. Sometimes he has a real or fancied grievance which, if talked out, will not be likely to develop into a story of injustice. Putting a thing into words usually defines it in one's own mind. Often a person finds that he has nothing of real importance as a basis for his imagined grievance. If the grievance is real and is clearly expressed, a skillful listener can ask questions which will help the situation. He may inquire how such a circumstance could arise. If the employee has no suggestions, several ways may be suggested, some of which reflect upon the man blamed and others which leave him guiltless. The interviewer does not need to express his own belief. The employees should be led to consider the

many possibilities that may have brought about the situation. They can draw their own conclusions.

A junior officer was told that he could no longer try to improve the work of a checker, Mr Swamy, but that he would have to dismiss him for inaccuracy Mr Swamy had been with the company for seven years The officer realized that the company's decision would be a blow to Swamy and that it might hurt the morale of the department in which he worked He therefore devoted time to learning from Swamy's present and past supervisors about his family and his situation outside of business When he called Swamy to his office he said:

"It hurts me to tell you your services are unsatisfactory, Swamy. I know what a fine family yours is, and that you have worked faithfully here I know this will disappoint your father, who comes from the same town as my friend, Mr Narayan It seems to me you aren't suited to office work We should have decided that before, but we hoped your hard work would make you satisfactory. But this seems to be the wrong thing for you

"Have you thought of some outdoor work which would be more congenial ? - I hear your uncle is an engineer. Couldn't he give you a place with him where there would really be a future for you ? I am convinced you can make good in the right situation, and greatly regret we cannot fit you in here."

The young man took the blow of dismissal in good part, and left with genuine hope of making good elsewhere

Just before a worker leaves, either voluntarily or involuntarily, he feels free of many of the inhibitions which may have prevented him from expressing himself fully about his job. Therefore an "exit interview" is part of the personnel procedure of some companies. This is a private and sometimes confidential interview between the employee and one other person—his supervisor or his supervisor's superior or a representative of the personnel department. At times two or more persons may have interviews with the employee. He should be encouraged to talk about his experiences with the company and to offer any suggestions in regard to the way the company treats its staff. In the course of the exit interview, it may be desirable to express interest in the employee's future and to help him get placed satisfactorily elsewhere.

Developing Morale

Morale is the capacity of a group of people to pull together persistently
and consistently in pursuit of a common purpose.

> Alexander H Leighton, *Human Relations in a Changing World,* E P Dutton and
> Company, 1949, page 78

The genius of American management developed mass production proc-
esses to the point that physical services required by our people can be
provided with far less individual worker effort. That means less time on the
job and more time with one's self. It is perfectly natural, therefore, that as
human beings have more time to live, they become more interested and dis-
criminating in the satisfactions they expect to receive from life

Physical attainments of management, which thirty years ago awed the
world, are now taken as a matter of course. The manager who can operate
an efficient, highly productive organization of people of high morale and
with minimum labor discord receives greater recognition from the people
than the builder of a skyscraper. The pressures upon management today
and the criteria by which the effectiveness of management is measured are
more in the area of the development of human resources than physical
resources.

> Laurence A Appley, *Management in Action,* American Management Association,
> 1956, page 380

The supervisor's chief functions as leader are to develop the indi-
viduals under him and to integrate them into a cooperative team. To
accomplish these ends, he must *feel* the right way, *know* the proper
technique, and *act* in the appropriate manner. A great deal can be
learned by observing the good and the bad supervision exercised by
others and by analyzing why certain conduct seems to affect one's self

and others favorably or the reverse. One may not be able to equal the best he sees, but he can avoid some of the pitfalls into which he sees others falling.

High morale is one of the essentials for effectiveness in the office or in any organization. In the army, good morale is considered to be of primary importance. Could you, however, think of any organization in which the thought and feelings of the men could be more completely ignored than in the army—if it paid? The Chief of Staff of the United States Army had this to say:

> The military effectiveness of an army is equal to the product of its physical attributes, including strength, skill, equipment, and organization, multiplied by the intangible factor of morale. A unit with high morale will often accomplish the seemingly impossible, but when this all-important factor approaches zero there invariably result ineffiency, failure, and finally disintegration   .
>
> The unfailing formula for production of morale is patriotism, self-respect, discipline, and self-confidence within a military unit, joined with fair treatment and merited appreciation from without. It cannot be produced by pampering or coddling an army, and is not necessarily destroyed by hardship, danger, or even calamity Though it can survive and develop in adversity that comes as an inescapable incident of service, it will quickly wither and die if soldiers come to believe themselves the victims of indifference or injustice on the part of their government, or of ignorance, personal ambition, or ineptitude on the part of their military leaders.

Good morale is based upon a feeling of having an essential part, although perhaps a small one, in a worthwhile organization. A person should feel competent to fill his part, which may require education and training. He should also feel that his superior is willing and able to help him and has his true interests at heart.

Before real cooperation can be obtained, the individual must be interested in the work of the group, in the work of the enterprise, and in the part he himself plays. The forces leading people to work throw some light upon how their interest may be aroused and also upon why some persons work without any real interest in what they are doing.

WHY PEOPLE WORK

People undertake jobs for a variety of reasons, and they work with a will for a still larger variety. Some of the reasons commonly effective are:

1. They wish to earn money for common necessities for themselves

and their families or for a higher standard of living. Once on a job, they want more money to "get ahead in the world," to provide further comforts and conveniences for themselves and their dependents, educational facilities for their children, better housing, a car, and so forth. Even girls who once would have stayed at home want money of their own, sometimes for personal adornment and luxury, sometimes for independence, and sometimes to get ahead.

2. They desire economic security for the future, in illness or old age.

3. Many take jobs to fill their time or use their energies. Frequently girls work between school and marriage for these reasons. They may wish to get away from home or they may be bored or restless.

4. Others work because it is "the thing to do," even though they do not need money and are not ambitious. Social pressure, or the opinions of their friends, may make having no job less tolerable than working. Some persons have never considered the possibility of becoming a respectable loafer (if they have money) or a disreputable one (if they have not).

5. Some work because they feel a social obligation to be useful and to do their share of the world's work. Once on the job, they wish to feel its usefulness.

6. People are driven by a creative urge to do something worthwhile. Some writers call this the "instinct of workmanship."

7. Some have a desire for power and work to attain a position of authority. They like to direct others. Some merely like to have a sense of personal prowess. The supervisor should use this motive with discretion.

8. Almost everyone has a wish for approval or recognition. This motive is a powerful ally of the supervisor.

9. Many persons wish to be part of a social group and to do their share in it. This wish is a basis for teamwork. Most people tend to conform to group pressure. A few tend to resist it.

10. Some wish to excel those about them. Wise cultivation of rivalry is a spur to effort.

11. People are loyal to their group or their leader, even when they are not interested in the immediate task, just as a mother does unpleasant chores for the sake of her children. This loyalty is the fine flower of cooperation and mutual confidence.

12. People become interested in their immediate task or in the end in view.

Fear may drive persons to action, but usually it is a negative motive. In animals, we see that the effects of fear are running away, fighting, and playing dead. The effect on human beings is more subtle. Fear is the great inhibitor and often causes permanent damage to the per-

sonality. It should not be used as a tool in the office. To be sure, people may work hard under the fear of discharge or of displeasure, but far more effective is the will to do things for some positive end. As Schell says, "One measure of executive success is the ability to get employees to 'work with a will.' The task is to stimulate the driving force which is within the individual so that he faces his work with a self-inspired eagerness." (*Technique of Executive Control,* page 74.) Appeal should be made to the positive motives in attempting to build up interest and teamwork.

The wish to make money and the fear of losing a job are reinforced by other desires often far more potent. The importance of financial incentives has probably been overrated in the past. However, so much emphasis has been placed upon pay that praise will seem insincere if frequently given unless it is followed up, without too great a delay, by a financial reward, or unless the employee has been given some good reason for lack of such action.

Since the motives mentioned early in the list are satisfied by almost any job, once a job has been obtained they are not likely to have much effect in getting the individual to work harder than is necessary to avoid being dismissed. The motives in the latter part of the list must be called into play to secure real effectiveness.

The different motives for which persons do the same work are well illustrated by an often-quoted story:

There were three men cutting stone—stonecutters—working inside of an enclosure, and back of them, up on a little eminence, there was a cathedral, about three-fourths completed. A stranger came along and said to the first man, "My friend, what are you doing?" "Me? What am I doing? I am working for eight dollars a day." He went along to the next man and he said, "My friend, what are you doing?" "Me? What am I doing? I am squaring this stone. See? I have got to make it just like this, see, right there. I have to make it absolutely straight, an absolutely straight edge right down there, on that part of the corner, and square it right off here. Look, I'll put the straight edge on it for you. Isn't that a perfect edge! You see this little niche that I have cut, that little niche right there? The other fellow working down there is cutting a niche just like this, only the other way. His fits right into mine. If we get them just right, they lock together tight, and they are just as solid as if it was one stone." The stranger walked along to the next man and said, "What are you doing, my friend?" "Me? What am I doing? You see that cathedral up there? I am helping to build that. Isn't it great! Isn't it grand!"

E K Hall, "A Plea for the Man in the Ranks", *Personnel* November 1931, page 56

WHAT PEOPLE WANT IN WORK

What people want in work varies considerably with their education, age, sex, personalities, interests, and background. It is obvious, for example, that people's attitudes are different at 20 than at 50, and whether single or married. Sometimes what supervisors believe workers want and what they actually want are not the same. Supervisors who understand the personal attitudes of employees are able to deal with them more effectively. A couple of American studies show attitudes in specific examples. The specifics are no doubt different in various occupations, companies, levels, and countries.

In 1945 to 1947 the Minneapolis Gas Company (Minnesota, U.S A) studied what applicants wanted in a job Among 472 applicants for clerical positions, 259 were men and 212 were women.

JOB PREFERENCE FACTORS

Men	Women
1 Type of work	1. Type of work
2 Advancement	2 Security
3 Security	3 Advancement
4. Company	4. Company
5. Pay	5. Supervision
6. Coworkers	6 Coworkers
7 Supervision	7. Working conditions
8. Working conditions	8 Hours
9. Hours	9. Pay
10. Benefits	10 Benefits

Clifford n Jurgensen, "What Job Applicants Look for in a Company." *Personnel Psychology,* Winter 1948, page 113

A broader study of applicants for all types of positions not merely clerical, showed that the primary consideration for the men covered was security—steady work and no lay-offs. For the women in the sample, on the other hand, type of work came first, then security, followed by advancement, hours, and type of coworkers. In general, the more education the person had, the less he gave priority to the security of the job. A similar survey carried out in India in 1965 listed the importance attached to various job factors in government and in private undertakings. The rating was done by management representatives.

	Government Undertakings	Private Undertakings
Training and Instructions	1	2
Employee Relations	2	5
Working Conditions (Social)	3	9
Management (General)	4	4
Job and Equipment	5	11
Supervision	6	3
Working Conditions (Physical)	7	10
Employment Policy	8	1
Wages	9	12
Industrial Relations	10	8
Safety and Housekeeping	11	14
Communication	12	6
Hours and shifts	13	13
Production	14	17

N R Chatterjee, *A Study of Some Problems in Indian Industry—an Opinion Survey*, Department of Business Management and Industrial Administration, University of Delhi Delhi, 1965, page 40

A survey was conducted among employees of General Electric as to what they liked and what they did not like about their work. Out of the study emerged certain qualities that an employee wants to find in his position with General Electric The order of importance varies with each individual and with the local conditions They are as follows:

Rewarding associations on the job, or a sense of belonging
Important and significant work, or a sense of purpose
Full information.
Good pay and other material benefits
Good working conditions
Good managers
Steady work.
A fair chance to get ahead
Respectful treatment.

Each of these categories presents almost endless opportunities to the manager who recognizes that human resources are ultimately the resources that count most deeply in an enterprise. .. The achievement of such powerful human motivations and satisfactions throughout the entire organization starts with the philosophy of management: the decentralized philosophy that recognizes the dignity and capacity of each individual It is implemented in the structuring of the organization, and of each position in the organization, so that each position has its own responsibility and authority It is implemented in the climate which prevails—and that is deliberately created—in each organizational component, and in each man-to-manager

relationship. It is implemented in the ethical behavior, and therefore in the ethical beliefs, that guide a company in its work toward honorable and responsible objectives.

Ralph J Cordiner, *New Frontiers for Professional Managers*, copyright McGraw-Hill Book Company 1956, pages 106-107

DEVELOPING INTEREST AND COOPERATION

First-line supervisors meeting in a conference were asked how they created subordinates' interest in work. They suggested that the supervisor may:

Show the relation of specific work to the whole

Make work as creative as you can

Be considerate in all that is done.

Secure social recognition for work well done and give publicity to outstanding achievement.

Appeal to pride in workmanship

Involve each person's feelings and concern

In talking with employee refer to *"your* job," *"your* paper," etc

Make the group socially significant by referring to *"our* team," *"our* group," *"our* unit," *"our* company."

Make work active, living, vital, and important to success of the group.

Substitute the machine for distasteful routine tasks

Remove monotony and repetition whenever possible

Study all jobs that appear to lack promise for individual happiness, make them as personally rewarding and creative as you can.

Look at the jobs frequently from the employees' viewpoint

Study the jobs where high turnover occurs to see if lack of interesting work is the cause

Tie together several monotonous repetitive tasks to create variety

Review jobs and redesign them to create interesting work or group effort

THE CLIMATE OF MORALE

Each work group, department, company, or government bureau has its own climate. You as a supervisor do not create this climate single-handed, but you do have a great deal to do with the climate of those who work for and with you. Much depends on you whether the work place provides challenging and satisfying experiences or a situation of drudgery to be endured until a better job is found.

The climate of the work place is made up of the feelings and beliefs, attitudes, behaviour, and temperaments of all the persons concerned.

Their relations to one another make up the human relations of the group. To the sum total of these individual characteristics and relations are added also the formal policies, procedures, rules and codes of conduct of the particular business and of its special subdivision. The result may be a climate which is warm and friendly, with respect for each person's rights and human dignity. Or it can be unpleasant, filled with fear and suspicion and with lack of consideration for the individual.

The climate can be pleasent and yet not effective in meeting the organization's goals; or it can be unpleasant and still not be effective. The ideal is when it is both effective and pleasant. The chances are, in those circumstances, that not only is the output of goods or services satisfactory but also the human growth and happiness.

We can describe with some confidence the kind of situation where a work group or a cluster of work groups or a whole company meets the conditions of good human relations and sound and effective organization and work methods.

1. *Each individual should understand what his work is and how it fits into company objectives.* This point was discussed in connection with the work group in Chapter 3. We say that the objective of a business is to make a profit. This is true, but it is not the only objective. Other company goals are real, too, and usually more meaningful to the employee—to make a good product or provide a useful service, to provide good employment, to develop a superior institution, and so forth. Each subdivision of the enterprise has a more specific objective. This should be made real to the employee and should be related for him with the broader company objectives. Satisfying his own needs and attaining his personal goals need to be tied into the goals of the work group and the organization.

2. *Much satisfaction comes from the work itself, from the pride of workmanship of individuals and of groups.* To achieve this satisfaction, an employee should be placed in work for which he is at least moderately well-suited and which he enjoys to a reasonable degree.

3. *Setting standards of good work is an encouragement to individual and group performance.* A person likes to know what a good job is and whether he does his job well. On most kinds of work he should be able to keep score on himself as to both quality and quantity of performance. "You don't play tennis without a score." Records of what an individual produces or accomplishes are often stimulating. Some are interested in making a good record; others work in order to show that they deserve more salary; others, in order not to let "a stupid person like Mr. Brown" beat them; others, in order not to show up worst; and so forth.

When it is not practicable to measure the work of each individual,

people's interest in the group record can be built. This can be accomplished by making each feel that he is doing an essential part of the group's work and that the measure of the group's success is partly his own. People like to see results. Demonstrating the results of the work in true stories of human interest helps too. A statement which is uninteresting in its details to the persons preparing it may serve as an incentive to group action if the team becomes interested in having it complete for the use of a particular officer at or before a specified time. If they find that the figures are seldom used, however, they will not work with the same will. When an objective for group effort is carefully set, and pride in attaining it aroused, the group will use pressure to secure the cooperation even of laggards. Just as an individual works harder when his pride is aroused, a group works with a will when it is proud of a departmental record.

4. *Good work should be recognized and rewarded, but work less than good should be adjusted and not overlooked.* It may destroy the will to work of those who get excellent results in quality and quantity of work if they get no more praise or pay than persons who turn out mediocre work.

5. *Interest in work develops gradually and should be cultivated.* When a new employee begins work, usually he will not be particularly interested in his junior job, but he may be enthusiastic about starting in, about earning money, about fitting himself into an organization, and about other general aspects of his new connection. Primary interest in his particular phase of the work will generally be lacking, for he usually will not know what his exact job will be until after he has begun on it. Interest usually develops, if at all, after the worker has settled into his place.

Since an employee can hardly be interested in what he does not understand, the supervisor should take pains to teach each person the reasons for what he does and how his work ties in with the rest of the organization. It is particularly painful to bright workers to perform steps apparently unnecessary, and yet supervisors often do not encourage questions which would clear up reasons for doing things.

A shifting of emphasis from one part of the work to another will maintain interest. Too great concentration on one aspect causes interest to wane. An occasional change of emphasis from the volume of work, to the accuracy with which it is done, to the speed of completion, or to the cost of doing it will help hold interest.

The different ways in which persons express themselves make it difficult sometimes for the supervisor to know when he actually has aroused the interest of some workers. Some lack self-confidence and are

afraid to take any responsibility. Often others appear to lack interest. If they are given some small special jobs which they can do well, their sense of achievement may lead them to attempt other and more difficult work. Sometimes a worker appears "offish"—that is, he attends so strictly to his own business that he pays little attention to those around him. His reactions need to be studied carefully. Perhaps he can be made gradually to take an interest in the department as a whole if his advice is asked about some problem of operation. This is especially true if he is an older employee.

6. *Work becomes meaningful when accepted as part of one's own life*, when it is "my work" or "our work." How otherwise is it possible for a doctor or other person to endure hardship, suffer physical injury, and undergo danger even to life itself and yet have a love for the work? Some psychologists call this "involvement of the ego." An unpleasant component of the work is accepted, and a worthwhileness and satisfaction come from the doing of the task.

Two paragraphs from a memorandum prepared by the supervisor of a well-run mechanical duplicating department summarize how he had succeeded in building excellent morale

"It is a gratifying symptom to hear a person say 'my' machine can do this, or 'my' machine can do that A machine is more than a bunch of wheels It should seem to have definite characteristics All machines are different, even cars of the same model It is possible to foster interest in any apparatus and it is a necessary step in the training of an operator.

"There are two ways of placing a big batch of work before an operator The first way is to throw it at him (figuratively speaking, of course). It will surely land as a millstone about his or her neck, with bad results The second way is for the supervisor to show enthusiasm It is a compliment for any overseer to have a big task placed before him If he were not capable of handling it, it would not be there. After all it is some person's measure of his capabilities The processes of passing along this idea are many One method—to the operator goes the work, with a few remarks and a little discussion on how to tackle it A concluding remark might be, 'Well, it's a big job, and it will sure keep you going.' There is usually a healthy response such as 'Oh, I did more than that such and such a time' The stage is all set for results, the operator proves the point, does something hard, it is appreciated. This is the 'soil' in which energy is let loose, quality work is done, and enthusiasm generated for more "

The supervisor, if he is to develop in each worker this attitude, must understand that person's personality, interests, feelings, aspirations, likes, and dislikes. What is one man's meat may be another man's poison. Each individual's need for recognition, belonging, and security

should be met to the degree possible. Fortunately the supervisor is not the only one to build up feelings of belonging, for in a well-knit group most members cooperate with other members. The supervisor, however, must be particularly perceptive in avoiding those actions which may break down good group feelings. He can also do a large amount to build a sense of security and to give that recognition which almost everybody craves.

7. *The individual should have room to make judgments, choices, and adjustments concerning his work.* Naturally this freedom must vary with the job. Where each person does only a small portion of an interconnected operation, he has little latitude. We really cannot expect much from a human robot—usually less than from a mechanical one, for feelings are apt to get in the way. A person doing a small task on an assembly line—whether in an office or factory—is frequently a poor substitute for a machine. The essence of a human being is his capacity to think and to exercise skill. A job which does not call on these abilities should be either further mechanized or humanized. When work is so arranged that his mental faculties are called upon and when he can vary it and adjust it himself, he naturally feels a greater sense of responsibility and contributes more thought and care. It is hard to have much feeling of satisfaction in a job if we cannot work out anything for ourselves.

"Why did you resign ?" the personnel officer asked a competent operator. "You like the company, the pay is good, and working conditions are pleasant."

"True, but that supervisor was always looking at the back of my neck," said he. "He never really let me do anything on my own. No sooner did he give me instructions than he was out looking over my shoulder to see if I was doing what he said."

8. *The employee's confidence in and respect for the supervisor are important to an effective relationship.* Confidence is based on the fairness and justice of the supervisor. It is not enough for him to mean to be fair; he must be fair in appearance as well as in intention. This involves a sense of perspective, not making a big fuss over a little thing and later allowing a big failure to go by with little attention; a genuine interest in those under him; time spent in helping each to develop; and directing the work of the department effectively, clearly, and consistently.

Try to put yourself in the other fellow's place and imagine how your acts would affect you. Keep on imagining the situation and make allowances for differences between yourself and him. Do not do this just

once, but try it from time to time, especially before you take any drastic actions. Remember that comparatively few people are dominated by reason. Emotion plays an important part in almost all of us. Truthfulness, sincerity, and tact are of great importance in building up morale.

9. *Teamwork is the result of broadening the interest of the individual to include the whole group.* Thus he contributes to the group and it reinforces him. If each member of your staff is interested in his own work, you have laid a solid basis for teamwork, yet unless you have actually achieved cooperation, one of the mainsprings of action will not be touched. Integrating your group into an effective whole is the test of your leadership. To paraphrase Ordway Tead, a good leader gets things done chiefly because through his influence people become willing to do them. He releases energy, achieves teamwork, builds enthusiasm; in other words, he creates power for the organization.

A team implies that a number of persons are working together to achieve a common aim. Various persons specialize in particular aspects, but all must cooperate to make the play effective. Each person should know what he and each of his teammates are supposed to do, and the progress of each toward the goal. Cooperation cannot be effective without a will to work together and the knowledge of what is to be done and how to do it. Teamwork is hard to achieve when employees do not see the object of their task or when they notice that others are not cooperating.

. Sir Norman Angell told this story from the vineyard districts of France "The parishioners of a certain priest decided to make him a present of a barrel of wine, and each was to contribute a bottle to the common barrel. This was done on a certain Sunday, and it was observed that the parishioners were a little secretive in the way in which they brought in their bottles When the priest went forward and turned on the tap. out of the barrel came pure water. In the subsequent explanations it was discovered that nobody was to blame, because, said each parishioner. if only the others had done their duty my little lot would never have been missed "

Teamwork does not imply that each person should try to help the others at all times by volunteering information or aid when it is not particularly needed. Sometimes a person is so anxious to help everyone that he gets the reputation of meddling in the business of others. The supervisor then needs to correct the situation without hurting the basic desire to be helpful.

A man in a small department of a factory had the reputation of being a busybody. His supervisor believed that this criticism was unfounded, but

explained to the man that in order to change the opinion of those in the department he must be very careful not to give information unless definitely asked, and to pay attention to his work only. Even though a word from him would prevent a mistake from being made by others who were misinformed on certain matters, he should let them make the error unless they asked him. After a few months the general opinion of him changed completely and he got along well with the other workers.

Teamwork springs from satisfying relationships on the job—in the daily associations with coworkers and the boss. If these relationships are pleasant, cooperation is smooth, it is easy to get out the work, and interest radiates. From the spirit of many small work groups emerges "company spirit." Company loyalty is thus fashioned out of daily associations. In a situation of high morale, almost everyone feels and accepts the worth and value of the organization, and the chances are that production is good too. ·

The feelings and sentiments the employee has toward his work group seem to us to determine his major attitude toward the company. Some few people have dedicated themselves to a cause and work hard even if conditions of work are disagreeable. Most of us, however, seek not only to meet our economic needs through work but also to satisfy many of our psychological and social needs through associations with our working companions. Recognition that this is so has changed the ideas of many people about supervision and management. People used to think of the "economic man" who balanced off all his needs to the degree that he would stop working when his demand for a given amount of money was satisfied. It hardly sounds reasonable, though, that young workers exert themselves harder if they will receive a higher annuity after they retire, or that they will get out this week's work better if they have the promise of illness benefits or vacation benefits for a given number of weeks. Douglas McGregor of M.I.T., moreover pointed out the irony of expecting employees to work hard now for the sake of rewards off the job—retirement, illness benefits, paid vacations, unemployment compensation, or severance pay. Even pay is spent off the job. These economic considerations are important to induce people to start work or to continue with a certain employer. They probably have relatively little to do with production above the minimum necessary. For example, double pay on Sunday may be an important inducement to a number of persons. This and other financial and fringe benefits, however, probably do not have much effect on the quality and quantity of work done or on the spirit in which it is performed. Presumably they do not curb the impulse to talk now about the cricket test match rather than get the

work out. The expectations of coworkers, however, apparently do have quite a bit to do with the amount of production turned out.

10. *Good communication is basic to good relationships between the individual and his group and between the work group and the larger organization.* Communication is affected by feelings, sentiments, and attitudes, and by the angle of vision too. Your own angle of vision as a supervisor differs from that of your employees or of your own superior or of the methods man or other technical specialist you deal with. The chances are that you and your employees do not feel or see the same way about a particular job or about the company as a whole. The difference in viewpoint multiplies the chance of error when you try to interpret employee feelings and attitudes. You should bear this in mind continually For example, surveys of morale show that supervisors believe morale to be better than employees say it is in their responses. Nancy C. Morse found in one study that only one supervisor thought morale was poor when almost all employees thought so.

Supervisors also differ from employees in other reactions. Work pressures, personnel practices, and other matters may be quite acceptable to the supervisor but annoying to employees. Supervisors, Nancy Morse found in her study, liked the security which the company afforded them and appreciated the benefits provided. But employees placed chief values on hours of work and on the kind of people with whom they worked.

A study by Glen D. Mellinger of the attitudes of 330 scientists at the National Institutes of Health shows some interesting data. If the individual believes that someone else has confidence in him, he is more likely to be accurate in estimating that person's opinion. But when another person's confidence in him is thought to be low, the individual has difficulty in estimating the other's opinion of him. This is particularly true when he thinks that the boss does not have confidence in him; it is then hard for him to estimate the boss's opinion and he is likely not to be frank in expressing his views. The superior therefore is unlikely to judge correctly how the employee feels. When confidence is low, the individual does not feel that they both share the same opinions.

When people like one another, it is hard for them to believe that there is disagreement between them. An individual who has only mild liking for someone is usually more accurate in perceiving the other's opinion than if he has strong liking. Apparently we expect our friends to agree with us and have confidence in us. But if we do not have a liking for someone or lack confidence in him, then we expect disagreement.

Dr. Lillian M. Gilbreth, world-renowned management engineer, pointed out to the authors that in her opinion children usually learn to

love other members of their families but are not taught to *like* them. She thought we should encourage people to look for the likable characteristics in others and emphasize our liking for these features. Thus even if we get irritated with someone we can learn to enlarge the area of liking. Isn't this important in work situations? If we learn to like a person, we begin to have confidence in him. You can see that it is important for you, as supervisor, to like your subordinates and develop confidence in them. Thus they acquire a sufficient sense of security to tell you what they are thinking and they can listen with greater attention to what you say.

11. *A genuine sense of participation is a foundation stone of good morale.* When employees take part in decisions affecting them, they usually have higher performance than otherwise. They are stimulated to do their part when they have a voice in determining their work assignments, plans, schedules, and changes, when they have a chance to talk out their troubles, and when their suggestions and ideas are listened to and often accepted. In this type of atmosphere, constructive change is easy and suggestions are freely generated and tried out.

The factors which build interest and teamwork are elusive, but those which destroy it are usually evident to all but the person who inadvertently disregards them. Things which make a person think, "What is the use of trying?" will break morale for himself and very likely for others.

To scold at and torment all your servants appears, at first sight, to be the desirable thing; but those who study the best method of this amusing art, will tell you, that it is much better to select out one or two, at the most, who are proper objects, and who you are sure can feel your strokes; for by this means you may make use of all your bad servants as instruments to plague the good

Be sure on no account to make use of any distinction, or ever examine into the true author of any fault or carelessness, until it be done privately, in order to lay the blame on a wrong person. . . .

Be sure never to lay the saddle upon the right horse, as being the most certain method of galling

The old saying, *Twice I did well, and that I heard never, Once I did ill, and that I heard ever,* must by no means be contradicted by you, for the oftener you give your servants an opportunity to apply it to themselves, the oftener do you make them feel your power.

Author Anonymous, *An Essay on the Art of Ingeniously Tormenting; With Proper Rules for The Exercise of That Pleasant Art,* A Millar, London, 1753, pages 20, 21, and 22

A group of foremen in a public utility concern discussed the causes

of lack of interest and the remedies. Their findings are summarized in the columns below:

CAUSES	REMEDIES
Failure to delegate responsibilities	Delegate responsibilities
Too many outside interests	Talk over and point out effects
Too sure of his job	Talk over and point out effects
Partiality on part of superiors	See that the man gets square deal
Laziness	Hold for results
Man on wrong job	Transfer to another job
Lack of vision by man	Point-out possibilities
Outside job	One job or the other
Too monotonous	Transfer if possible—if not, time off to look for another job
Too much routine work.	Study routine—eliminate unnecessary Distribute routine work
Poor planning by foreman	Self-analysis by foreman
No future.	Point out possibilities Transfer if possible—if not, time off to look for another job
Low wages	Recommend raise Point out wages are fair Time off to look for another job
Homesickness	Time off to go home
Irresponsibility.	Discipline
Too much responsibility	*Relieve him of some of his responsibility.*
Too many bosses.	Definite line of authority
Slow advancement.	Point out reasons for
Changeable orders	Self-analysis by foreman
Ill health.	Recommend medical attention
"Passing the buck"	Do not do it and do not tolerate it
Too detailed supervision	Only when necessary.
Poor teamwork	Conference to point out effects of cooperation
Jealousy.	Find the cause and act fairly
No training.	Proper training
Lack of leadership on part of superior	Self-analysis by foreman
Too much overtime	Split up the overtime
Man has no hobbies.	Talk to man and offer suggestions
Bad working conditions.	Study situation Correct conditions if possible, otherwise frank explanation.

Lack of recognition	Give credit when due
Domestic trouble.	Recommend investigation of home conditions
Interference by fellow workers	Closer supervision.
Lax discipline	Enforcement and self-analysis

Interest will be stifled if the existence of unnecessary work is known, if systems are not satisfactory, or if proper equipment is not provided when needed, or if there are obvious wastes of time, energy, or materials. It is also retarded if some people are allowed to get away with inefficient work, if work is inequitably divided, if there is any hint of partiality, or if there are appreciable differences of pay among those of similar length of service and class of work.

If a worker is known to those about him to be doing work which is far below the average but to be getting a higher than average salary, it is likely to damage morale even though the worker may have been with the organization for years. If there are good reasons for retaining such persons and maintaining their pay, they should be put in jobs where their work cannot be directly compared to that of others.

Perhaps one of the most frequent ways in which morale is undermined is by the supervisor's making a big fuss over a little fault. An accumulation of little things may gradually have aroused his ire. Or he may just have been called down by his boss, and, being in a bad humor, be excessively annoyed at something wrong. Losing one's self-control and the use of sarcasm or ridicule are almost always bad.

Usually one should inquire into a situation before acting.

Sridharan, the head of the supply department in a company with about 100 employees, had been working till ten or eleven o'clock at night in order to get rush work accomplished. One night he worked till midnight. He was delayed at home the next morning and came into the office two minutes late.

There had been some criticism about people coming in late. The director saw him, sent for the officer in charge of personnel, and asked why Sridharan was late. The personnel officer sent for Sridharan and told him that the director had been asking about his lateness. Sridharan explained to the full satisfaction of the personnel officer, but he said to us, "Do you think I'd work late after that? No. I'll quit at 4.30 and the stuff can get behind. Why make all that fuss over two minutes, without paying any attention to the overtime I was working? I certainly won't do anything extra for that director."

Ill health is a frequent source of difficulty. Medical and psychological advice may be needed, since health is affected by mental and emotional factors. A good vacation may help. If a worker suffers from a physical impairment, the work should be adjusted to him, if possible. Ill health may be due to maladjustment in work or at home, and often much can be done to change a person's perspective by getting him to talk out his situation with the right person. A large percentage of the work force may have problems of adjustment or of personality. Some of these problems require a psychologist or psychiatrist; others can be aided by a supervisor or personnel man. Frequently, grudges and difficulties of all sorts need only to be mentioned for the right solution to come to mind. Supervisors, on occasions, can help by sympathetic and understanding listening.

Morale may be seriously undermined when the lines of authority which have been established are not adhered to till officially modified. Sometimes a superior gives an order to one of his assistant's subordinates, thus "short-circuiting" the assistant. This violates a fundamental principle of management, but is surprisingly frequent. The supervisor is likely to short-circuit his assistants, and is himself likely to be short-circuited by his chief.

A superior needs to have intimate and easy contacts with subordinates, and should talk with them and gain information from them. When he gives orders directly instead of through his assistant, however, short-circuiting occurs. When it happens repeatedly, the subordinate will tend to turn to him directly, and may be embarrassed by not knowing to whom to report or whose work to put first. The intermediate tends to slip into a position of figurehead. He may be seriously inconvenienced if the directions are contrary to his own, or if the worker was supposed to do other work. Either the superior short-circuits him unintentionally or he is not doing his part satisfactorily. Often, the best thing is for him to go to his boss, explain his embarrassment, and have the situation cleared up.

The evils of short-circuiting may be avoided largely by one of three methods. First, the superior may ask the intermediate supervisor to send a particular person to him for instructions about work he wishes to explain directly. This is preferable when higher officers are dealing with the lower ranks of workers. Second, the worker may be told by the superior to report to the intermediate what he has been instructed to do. This is often appropriate within a department when the department head deals with a person under a division head, especially when the latter has supervision only as an incidental part of his work. The third method is to have the intermediate present along with the worker. The inter-

mediate will then know what is wanted, can help get it, can arrange his other work accordingly, and can present his views.

If an intermediate is to develop, the superior should do all possible to strengthen him in the efficient performance of his duties, and should create an atmosphere in which the subordinates will recognize his authority.

An employee who was seldom late and was much interested in his work came in a little late one day. The head of the department, Gupta, heard the section head, Mehta, reprimand the employee quite harshly for his lateness and lack of interest. Gupta felt that the reprimand had been much too severe and that it would do harm rather than good.

A group of supervisors, who discussed what Gupta should do in this case, felt that he should stand by Mehta in his dealings with the employee. Gupta might wish to talk with the employee to get facts in the situation, but he should deal primarily with Mehta and try to get him to see that he had not acted wisely. He might even suggest a way out of the trouble; for instance, Mehta might say to the employee, "I am sorry that I spoke to you harshly about your lateness this morning I was annoyed at other people who were late and I put you in the same class for the moment, but I realize that you are seldom late and your good work entitles you to more consideration."

If persons feel that the underlying aim of building morale and teamwork is the personal advancement of their superiors or money grabbing for the corporation, they will consider themselves fools to work any harder than they have to. Most employees want to feel that they are helping to make a better and finer institution, of genuine value to the community.

The most public-spirited policies and the most enlightened ideas in regard to the staff are frequently misinterpreted somewhere along the line from the top management to the rank and file of the workers. When this happens, someone is failing in his job as supervisor.

If the supervisor thinks he is faced with basic unfairness in his superiors, he is truly in a difficult position. He cannot select his superiors any more than his subordinates have selected him. He may be able to influence them in the long run, but his main job is with his own subordinates. He can make the most of the opportunities he himself has to promote fair dealings in his own department.

More and more, business management seems to be developing into a profession, with the active managers feeling genuine responsibility to the employees and to the public as well as to the stockholders. An executive with the management-engineer type of mind wants to see the organization working effectively, smoothly, productively. He realizes the necessity

of making a fair profit if he is to hold his position and if the company is to continue permanently. When he improves working conditions, he may be doing so in the name of profit or of human happiness. Fortunately the more interesting and satisfying a job can be made to the person doing it, probably the greater will be his value to the employer. Therefore, both self-interest and human interest often lead in the same direction.

SUMMARY

What we have been talking about some writers call "consultative supervision" or "employee-centered supervision" or "democratic management." Whatever the term, a democratic way of life—at work—is easier to talk about than to achieve. It calls for stern self-discipline in the supervisor. He must be aware of what kind of influence he exerts and what example he sets. He shows interest in people without prying into their affairs. He helps people to develop, to make a constructive contribution, and to cooperate with the group. In making assignments and changes, he leaves room for individuals to work out adjustments for themselves, if possible. He indicates in all his actions that he thinks people's needs and feelings are important.

Such a supervisor must be available for consultation. It is not enough to say, "My door is always open." He must plan his work so he has time to listen. He should get around and talk with people, share their problems, and act like a member of the group. He does what he can to give assistance without breathing down people's necks. More by his feelings than by his acts, he encourages them to feel secure, to feel they belong, and to accept their responsibilities in the enterprise.

The job of supervision is not easy—it is complex. The supervisor needs to understand the diverse way in which people behave. We differ biologically, mentally, emotionally, and educationally. No two of us look at the same thing in the same way. Our personalities and backgrounds influence us in all that we do. We are conditioned by our perceptions, beliefs, and customs. In a group of people there are also social pressures, standards, rewards, punishments, and personal relations. No wonder a supervisor needs a wide span of observation and perception. Perhaps above all he needs faith in people. As we have said, morale is the capacity of a group to pull together to achieve a common purpose. The supervisor has an important part in this group capacity. He must be willing to pull with the others, on occasion to help speed up or slow down that rhythmic pull, and even at times to modify the course in line with the emerging objectives. In the words of a great management teacher :

Every executive has a certain rhythmic pace which he establishes, and the group draws their rhythm from it   It does not make much difference where the fife and drum are in a column of soldiers   They radiate rather than impose a rhythm

Erwin H Schell, in *Business Management As a Profession,* edited by Henry C Metcalf, copyright McGraw-Hill Book Company 1927, page 317

Some Specifics
in Dealing
with Subordinates

There are specific, identifiable attitudes that one individual can have toward another and . . . these could be stated as follows

Savagery—The other fellow is my enemy and is to be destroyed

Slavery—The other fellow is to be conquered and put at my service.

Servitude—The other fellow is to serve me for a consideration and ask no more

Welfare—The other fellow should be helped up when down, without too much concern for what got him down.

Paternalism—The other fellow should be cared for, and I will decide to what extent.

Participation—The other fellow has something to contribute to my efforts and can help me

Trusteeship—That for which I am responsible is not mine I am developing and administering it for the benefit of others.

Statesmanship—The other fellow is capable of being far more than he is, and it is my responsibility to help him develop to his fullest potential

Statesmanship in management . . is a very real thing—as close to the individual as his daily life Indeed, with many Americans. it is a way of life It is the spirit in which by habit and custom they approach their families,

their communities, their businesses. Their objective in each case is develop-
ment—of helping each one, each individual with whom they are in contact
to realize his full potential.

> Laurence A Appley. *Management in Action,* American Management Association,
> 1956. pages 21-22

The behaviour of any human being is, in fact, determined by the functioning
of three kinds of variables: first of all is the nature of the human being, his
beliefs, his capacity and his attitudes; the second is the characteristics
and qualities of leadership which he is subjected to; and the third is the
situation in which he is working, the organization and the environment.
The interaction between these variables results in various kinds of behaviours.

There are certain kinds of relationships...which can lead to predictable
behaviour anywhere.... For example, if you take the position of dealing
with the leadership variable and the situation variable, treating the individual
as if he were a machine, having reliance exclusively on extrinsic rewards,
holding close and tight control over them and preventing the forming of
groups, if you set out to do these things, you will be doing so to affect the
attitude of the people and in turn you will get perhaps some improvement
in productivity temporarily, but you will also get restrictions on output,
low acceptance of rewards and ... behaviour directed against the management
These are predictable as a relationship in the world under any condition.
I believe. .the specifics how you accomplish these will have to depend on
the specifics of the organization, the people you are working' with. You
do not use the same methods in the coal mines of England or in the West
Coast or the Calico Mills. You just adjust your methods with the circums-
tances. But you must think of some basic relationship and this is signi-
ficant and important.

> Douglas McGregor. "Cause and Effect in Human Behaviour". *Management Bulletin*
> March 1964, Department of Business Management and Industrial Administration,
> University of Delhi. Delhi. pages 4 and 8.

In the following pages we deal with some of the more specific problems
that arise in dealing with subordinates. Almost any one of the subjects
could be expanded to take up a whole chapter. In considering them,
the importance of the informal organization should be borne in mind.
Remember that the manner in which you handle the problem may be
more important than what specific action you may take.

RULES

The manner in which rules and instructions are developed and issued
has much to do with teamwork. All should bear in mind that the reason
behind the rules is to secure united action toward common objectives.
What may seem quite insignificant may actually be of vital importance
to someone else in a later stage of a process.

We have already discussed the supervisor's task of interpreting general policies and decisions for application in the particular organizational unit. The additional rules are normally few—only as many as the needs of the work and of the workers require. What rules there are should be followed. If not, the supervisor should find out why and either modify them or have them observed. Initiative is wanted in suggestions but not in rulebreaking, for teamwork demands coordination.

Different kinds of orders are useful in various situations. An outline developed some years ago by an agency of the United States Government has proved helpful :

A. Command

1. In case of danger.
2. For the lazy or indifferent worker.
3. To the careless man.
4. When the worker refuses to obey safety rules
5. To the agitator.
6. To the worker who refuses to do the work as he is told
7. To the "complainer"
8. To stop waste or delay.
9 To the disobedient worker.

B. Request

1 To the touchy or sensitive worker.
2. To the untrained worker.
3. To the nervous, irritable worker.
4 To get a little more work done.
5 To the man who is interested in his work.
6. To a person of equal footing.
7. First time you reprimand or caution a worker.
8. To an older man.
9. To avoid making a man resentful.
10 To the "hard-boiled" man
11. To do a difficult job in a particular way.

C. Suggestions (for fully experienced workers)

1. When improved methods are sought.
2. To the man who assumes responsibility.
3 To the man who is trying to get ahead.
4. Try it out with a new group of experienced workmen.
5 Use it to develop initiative.

D. Call for Volunteers

1. Dangerous jobs or accidents.
2 Disagreeable jobs
3. Extra-heavy work.
4. Working overtime
5. For a skilled worker to do a special job

The construction crew of a large Indian industrial operation faced the problem of pulling some electrical conduit through a ventilation system The job was not risky, but going through the ventilation system, which was large enough for a man to crawl through, was enough to scare the workers.

The Chief Electrical Engineer decided to ask one worker to crawl through the ventilation system and drag the conduit with him through He refused, and said that this was a dangerous job

No amount of convincing by the Chief Electrical Engineer was enough to have the workers change their opinion.

Thereupon, the Chief Electrical Engineer, turned to the group of workers and said, "I will go through the ventilation system with the conduit Are there any volunteers to go with me ?" This clearly surprised the group and convinced most of them that this was a safe enough job Needless to say, many hands in the group shot up for the job

The case illustrates three points: (1) The supervisor can achieve many difficult jobs if he proves to the workers that he is a part of the same group, and can accept the changes, challenges and standards; (2) The supervisor can achieve results by setting the example; and (3) The supervisor can earn the respect of the group by proving that the standards set by him are indeed attainable.

REPRIMAND AND PRAISE

George Washington, when 13 years old, wrote "Rules of Stability and Decent Behaviour in Company." There were 54 rules two of which deal with reprimands

No. 16: When a man does all he can, though he succeeds not well, blame not him that did it.

No. 17: Being to advise or reprehend anyone, consider whether it ought to be public or in private, presently or at some other time, also in what terms to do it; and in reproving show no signs of choler, but do it with sweetness and mildness.

James D. McCabe. *National Encyclopedia of Business and Social Form.* 1882

A supervisor who is either too lenient or too strict with his staff is

likely to get into difficulties. Firmness, consistency, impartiality, justice, and self-control are required to maintain discipline. To criticize destructively or to reprimand in front of other people violates the sense of loyalty and mutual consideration. Praise can be given in the hearing of others, but reprimands should be private. If weaknesses are due to lack of ability or to other conditions which probably cannot be corrected, criticisms are likely to result in more harm than good. Possibly, better habits can be built up in time, but the process demands tact.

A typist had been showing some signs of conceit, so one day her supervisor said to her, "You know, I think that some day I might tell you that you are getting to be conceited." She was startled, but did not like to take the remark as a charge that she actually was conceited then. However, the remark had its effect and she improved.

Praise is one of the most valuable tools at the supervisor's command. It should always be used with discretion. To appreciate good performance is important, but before giving praise, the supervisor should make sure it is deserved. He must be neither stingy nor lavish, but just. To praise a person for improvement is good; but not to praise also someone who is doing consistently good work may cause hard feelings.

FRIENDLY RELATIONS

Supervisors often ask, "How friendly should I be with my staff?" It is difficult to say more than that one should at all times be friendly and take an interest in each member of the staff, but avoid too much intimacy. As one supervisor said, "Take an impersonal personal interest...." When you do show an interest, be as concrete as you can. Instead of saying, "How's the family?" ask, "How is Radha coming on with her dancing lessons?" It is impossible to give specific rules because the conditions vary in different places and companies. What is regarded as too intimate or even impertinent in one organization is considered only common friendliness in another. One should be guided in part by the customs of the place. Toleration of a nickname or of the use of his first name may be in accord with the usual practice of the place or it may show too great familiarity.

A certain amount of friendly contact outside the office, especially if the organization is in a small town, should do no harm and may do good. On the other hand, if it is known that the supervisor is intimate with only certain members of his staff, it is likely that his acts will be viewed by some with the suspicion that he is favoring his friends.

It sometimes happens that two persons who have been friends outside business find themselves in the relation of superior and subordinate.

The outside friendship should be separated from the business relations. A supervisor who recommended a friend for a position indirectly under him agreed with him in advance that if he were hired, their friendship could continue outside but was not to affect their relations in the office either during or after hours. Within the office he was "Mr. Rajan," but outside he was still "Raju."

CONFIDENCES

The manager of a trade association which gets a great deal of confidential information has said that not one per cent of the people whom he has met will deliberately divulge confidential information. Even so he would not trust more than about one man in a hundred. Most of the ninety-nine men who do not intend to divulge secrets fail to realize how easy it is to spill facts. Maybe they will give only an innocent part of the situation which is to be kept strictly confidential; but someone else may give another part, and the secret leaks out. Often a person who is seeking information can get it by skillful questioning when the person with the confidential information is unaware of its leak.

Suppose, for instance, that one hears that the trade association manager is involved in a negotiation preceding the possible merger of two companies in financial difficulties and that he has spent much time out of the city. Someone, wishing to get further information, might call upon the executive, find that he is out, and inquire where he had gone. If told "Bangalore," he might jump immediately to the correct conclusions as to the name of at least one of the companies in difficulty.

Ideas of what keeping a secret means vary with different people.

The general manager of a bank laid before a meeting of the board of directors a proposal which would make several lakhs of rupees for the bank, provided it could consummate the transaction before outsiders learned what it was planning to do. The general manager, therefore, was particularly strong in his emphasis upon the confidential character of the proposal Finally one member of the board said, "That's all right, Mr. general manager, what you say about keeping this transaction secret I can do that myself. What worries me is how to stop the mouths of the people I always tell."

Knowing when not to talk and what not to say is as important as knowing when to talk and what to say. Always respect the confidences that any of your staff or associates have reposed in you, whether or not

they have gone through the form of getting you to promise not to tell. Beware of talking about confidential things in the elevators—if you had nothing to do but ride up and down all day wouldn't *you* be interested in what you overhear?

DEALING WITH SUGGESTIONS AND REQUESTS FROM EMPLOYEES

Prompt action upon requests and suggestions aids morale since delayed action may be interpreted as a sign that the supervisor does not think that the problem or the new idea is important. If you do not take action promptly, tell the employee of the delay, if possible with reasons. From time to time, mention the matter to show you have not forgotten. Jot down on a calendar pad, or in some other convenient place, all promises made, either expressed or implied. Do not make any promises you cannot keep. Keep all you make. If you refuse a request, be sure to say so.

To secure a flow of suggestions it is important to reply promptly to those offered. Definite rejection is preferable to indefinite shelving. If an idea is adopted, give credit to the proposer. If rejected, take care to explain to him the defects or the objections. Possibly point out ways in which it might be modified to be practicable. Pay attention to the psychological attitude of the suggester and try to discourage him as little as possible.

A suggestion should not be laughed at, if offered seriously, even though it may seem ridiculous to a man with knowledge and experience. Do not smother future good ideas in rejecting a foolish one.

Try to see the suggestion as a whole before you object to details. If you can, mention some good points. Do not immediately bring up all the objections. Perhaps you can tactfully bring the conversation gradually toward them, and maybe the suggester will see them and mention them. You may want to say, "That would be easier than the way we now do, but how would you handle cases like this . . .?" You may be surprised to find a good answer ready.

Sometimes employees presenting good ideas are criticized for not having thought of them before. A few such criticisms will seriously curtail the flow of suggestions. Many really good ideas are obvious—after someone puts them into words—and cause one to feel, "Why didn't we think of that before?" We do not blame an inventor for not making his invention earlier. Nor should we blame a man for not thinking sooner of a better method of handling work, essentially an invention.

Many suggestions are made as a result of laziness, but efficiency might

be defined as effective laziness, that is, getting the work done with the least expenditure of energy.

The steam engine was improved when the boy attending it wanted to play. His job was to pull a rope every time a mark on the engine's flywheel reached a certain point. This changed the valve openings and let the steam into the other cylinder. The boy found that if he tied the end of the rope to a certain part of one of the wheels, the rope was pulled automatically at the proper time. He tied it and went out to play. He was beaten by the boss for his laziness, but his invention has been used ever since.

In trying out a suggestion, it is desirable to allow for a period of learning. At the start the method may be slower, but an increase in speed over a period of several days may indicate that with further time the method will be an improvement. Frequently, the person making the suggestion is the best one to try it out as he understands it and is interested in its success.

It is wise to indicate to subordinates the problems on which a solution is sought. Often the mere statement of a problem will suggest solutions to other persons. When any general changes are to be made, requesting suggestions is often productive not only of new ideas but also of cooperation in putting the new plans into effect.

If the suggestion made under one supervisor affects the work under another, the former either can go directly to the latter or else he can turn the idea over to the planning department, if there is one.

If the attitude is taken, even occasionally, that the workers "are paid to work and not to think," a source of possible good suggestions will be cut off. Even a junior worker is nearer to some aspects of the work than you are. Try to show him you want ideas from your staff.

After discussing a matter with the director, a supervisor who had served under other directors said: "Well, I will do anything you please. What would you like?"

"I wouldn't like anything," replied the director. "Look here, we are both interested in the company. Now what do you think is the best for the company? That is what I want, not what I personally like."

LATENESS

A number of companies in the United States have found that the average lateness is about four or five minutes, or only a little above one per cent of the average working day. If only a few employees are late, is it really worthwhile to bother about lateness? If the company emphasizes the opening hour and insists on promptness, particularly

in an office, will not the workers emphasize the closing time and prepare to leave promptly, so that in the end the company will lose more than it could gain? If workers feel that there is a job to be done and that doing it is more important than putting in a certain number of hours, won't the work get out better, even if some individuals come in late occasionally? Why insist on punctuality?

These questions need to be considered carefully inasmuch as they are likely to come up in the minds of the staff. If the supervisor has definite reasons for his policy, he can apply it more readily. Similar questions were asked a group of supervisors. They had reasons for wanting their staffs to be prompt.

Lateness is unbusinesslike. It means that a person does not fulfill his full part of the job. A habit of tardiness is likely to get worse if not corrected and may also spread to others.

Punctuality is necessary to teamwork. An office is essentially a team. It cannot function properly if a part of it is missing. Coming in late may delay and interrupt the work of others. Stress was laid upon the psychological reaction on others and the fact that lateness often prevents others from starting on time. Some defended the view that certain individual and creative workers might well be late without affecting the quality of their work or their value to the company. The general attitude was that they would have a demoralizing effect upon others, even though their own work might not suffer.

Some of the causes of lateness are:

Oversleeping.
Failure to allow enough time to reach the factory or office.
Careless attitude or lack of interest.
Lack of foresight.
Laziness.
Job too difficult
Overtime
Emergencies or unusual conditions
Transportation delays
Outside activities and interests including coffee-house sessions.
Chronic illness in family.
Personal ill health
Wish to vary the monotony.
Desire to gratify one's sense of independence
Supervisor's lack of discipline.
Location in building, upper floors being harder to reach than lower floors.

There seems to be no unanimity of opinion regarding what constitutes

a good punctuality record. American figures of various clerical organizations indicate that a standard is attainable of less than two per cent of the employees late on the average. Considerably better records have been reported.

Many employees do not know what is considered a reasonable standard of punctuality for their department, probably because many supervisors have never set one. Setting one may help the record. The standard itself may be variable in that "satisfactory" may be considered as average or better in comparison to the department as a whole or it may be set in relation to a schedule for improvement.

Two ways of securing punctuality are of basic importance. First, set a good example yourself, thus suggesting compliance. If you are late, you may seem insincere and you will have difficulty in securing prompt attendance. Second, have work ready for everyone at the opening time. If work is not on hand, people tend to resent insistence on arrival at a fixed hour. They see no need of wasting time in the workplace instead of taking a little more time. A number of the listed reasons for punctuality are not operative, and the appeal of the remainder is weakened. If no work is regularly on hand and you cannot invent something useful, possibly you can get permission to start your department later than the other departments and to close correspondingly later. If lateness still continues, an effective plan is to find out exactly which people are coming in late. Usually a department's record is spoiled by the frequent lateness of a very few persons, while others are practically never late.

One supervisor found that a certain worker was chronically a few minutes late. He suggested that the person set as his "zero hour" a time five or ten minutes ahead of the bell, so that if he came in a few minutes behind the time he had set for his arrival he would still have a good attendance record. The plan worked out well, although unless the employee had been interested in improving his record he might have thought the plan rather silly. Setting his watch and keeping it, say, five minutes fast might also be used effectively.

In some companies, a worker who is more than three minutes late has to report to the personnel department. In others, the reason for lateness may be written on a slip by the offender, and a report made to the personnel department.

An officer stopped one day and counted the number of workers who came in late. He then asked supervisors in a meeting why they tolerated tardiness Apparently, their answers didn't satisfy him so he installed a bell which would ring at 8 A.M. and at 4:30, the end of the work day.

He then checked for tardiness a few days later   There was none   But at
the end of the day there were few people left in the workplace either   The
bell reminded them that it was time to quit

Time clocks sometimes discourage proper interest in punctuality and
in the performance of the job, since they may seem to lay undue em-
phasis on the time served rather than on the quality of service. On the
other hand, the authors have seen clocks used effectively and with no
apparent undesirable reactions.
Sometimes it is effective to post the records of the different workers
where all may see.

A supervisor in a large department store once found that three counter
salesmen were primarily responsible for the poor punctuality of his depart-
ment. He tried in all sorts of ways to persuade the men to be on time, but
made little progress. One day he drew a chart of a large pair of scales   He
put in the pan on the low side the names of those who had brought the
record down. He said nothing to the men but posted the chart where all
could see. The men reformed immediately.

Competitions among different departments, either arranged by the
supervisors or stimulated by the management, may be useful in securing
better attendance. Telling new workers about the department's standards
will help maintain them. When all else fails, the discharge of a person
consistently late may make the others try to get away from the bottom
of the list. This is rather drastic, however, and should be avoided if the
employee is satisfactory in other ways.

ABSENCE

The problems of absence is about the same as the problem of lateness,
although more complicated.
Even under ideal situations worker absence occurs. Sometimes, it is
a very serious matter. As reported in an article in *Supervisory Manage-
ment*, September 1956, absence in the United States cost ten lakhs of
rupees or the equivalent of the output of a million workers, and ranged
from 1.5 to 4 per cent of payroll. Absences are higher in the shop than in
the office, among women than among men, among employees of large
firms than of small, in companies that provide illness pay than in those
which do not. Absences are highest on Mondays, lowest on Wednesdays
and Thursdays, and rise before and after a holiday. If employees are ab-
sent a great deal the first year on the job, the pattern seems to continue.

Weather and the distance workers have to travel do not have much to do with absence according to this study.

A standard of satisfactory attendance is about as hard to get as one for punctuality. Some persons set eight days' absence per year, excluding vacations, as a reasonable average. A number of life insurance companies in the U.S.A. show considerably lower averages, ranging approximately three days per year for men and five or six days per year for women. Women normally have higher absence rates than men, but fewer long absences.

The causes of absence include:

Illness.
Personal business.
Public duties.
Family or home conditions.
Personal pleasure.
Lack of interest in work.
Lack of industry.
Desire for extra vacation
Unpleasant conditions in the work group.
Character of department head.

The first four causes are frequently unavoidable. The others are usually up to the supervisor, as are abuses of the first four. Although the immediate causes of absences and of lateness may appear to be outside a supervisor's control, he can fairly be held responsible for securing a satisfactory attendance in his department. To improve the attendance record, the workers with the worst record should be located, and the reasons discovered. Appropriate steps can be taken, among them some of the ones used for controlling lateness.

It is usual to require employees to report in by a fellow worker or by telephone or if they are ill or faced with an emergency. Otherwise advance permission for absence should be secured.

The supervisor should give prompt and fair consideration to requests for leave. He must weigh the needs of the work against those of the individual. In cases of personal emergency, leave is usually authorized without question. In less urgent cases the importance of the leave to the individual (to get married or attend a wedding or funeral of a close relative, to transact financial business and so forth) must be treated equitably in relation to the other employees. The superior should consider the amount of work which the department probably will have at the time when the person wishes to be away, how recently that person has had a similar absence, and how many such requests the individual has had

granted over a period of, say, a year. Care should be taken not to refuse the request on the ground that "there have been too many non-illness absences recently," unless that particular person has indulged in some of them. If he has seen others excused for personal reasons and is refused himself, is he not justified in thinking there is discrimination against him? A simple record of the names of the employees and the number of personal and illness absences of each will help the supervisor to the consistent. He should not penalize some individuals for his leniency to others.

The control of absences for personal reasons other than illness is not always easy. The character of the department head is an important factor—the example he sets and the type of supervision he gives. If he is too lax, he may be imposed upon; if he is too strict, he may accentuate nervousness so that employees will need to stay home more than they would if he developed an atmosphere with fewer tensions, where more work would be done with less mental and emotional strain.

A large life insurance company in the U.S.A. found that the quality of supervision had far more effect upon the absence rates of the different departments than such factors as bad ventilation, noise, or crowding. The company, which had outgrown its building, had several departments with poor space and others with good space. The absence rates by departments showed no relationship to the type of space. Where the quality of supervision was excellent, illness and absenteeism were low, irrespective of poor working conditions. Apparently, this situation resulted because the most capable leaders produced a working environment where nervous tension and other psychological handicaps were reduced to a minimum; consequently, health conditions were favorable, and, further, people came to work even when they were suffering from minor ailments.

Supervision has a direct effect upon worker absence. The kind of supervision received often aggravates personal problems on the job. Poor work management, boredom, discouragement, and bad relations with superiors and other people lead to absence. A report by Floyd C. Mann and James Dent on supervision in the Detroit Edison Company in Detroit indicated that the attitudes of workers toward their supervisors were directly correlated with absence. Some work groups had low absence rates, others high. In the low-absence groups there were more employees who were generally satisfied with their supervisor than in the other groups. The study also showed that employees have low-absence records when they have a free relationship with their supervisor and can readily discuss their problems with him.

WASTING TIME

Wasting time, like lateness and absence, is a matter over which the supervisor has much influence, both directly and by the atmosphere he creates. The main cause of wasting time is usually poor organization of the work, caused by poor supervision or general management. Waste of time is almost inevitable when the flow of work is uneven, when the department is overmanned, when machines or other equipment are inadequate or improperly installed, and where there is a lack of cooperation between departments.

In a great many instances, the supervisor is largely to blame for time wasted. When work is poorly organized, and a worker knows that he has little to do, he will stretch out the job, since many supervisors object to apparent inactivity. After he has used up time in apparently productive ways, when he has straightened his desk or work place and can think of nothing more to do, he goes to the lavatory or canteen and talks with anyone he finds there.

The most effective way to prevent time being wasted in canteens and lavatories is to pay attention to the organization and measurement of the work, to see that each worker has something to do as much of the time as possible, and to cut down the excuses and necessities for wasting time which exist in many work places. There may still be some people who waste time. Locating the worst offenders and dealing with them first may have a good effect upon the rest. Careful observation will usually show which individuals are offenders. As a last resort, a record may be required of each person as to how he spends his time, the record to be kept by five-minute intervals every day for a week or a month.

A supervisor worked out a good method to provide time in the lavatory without abuse. The employees had the habit of spending considerable time washing up before lunch and before closing time. This hampered the work. He therefore assigned each person a regular five- or ten-minute period at these hours, arranged so that only a few were absent from their desks at once. They might go freely to the lavatory at other times also, but they all understood that visits were to be brief.

Wasting time in the sense of taking time off in working hours may come about from efficient work habits. If it is known that a worker produces well, his time wasting may be a challenge to the supervisor to keep him challenged and fully productive. The worker may also create a morale problem for others. The supervisor may need resourcefulness to solve the problem.

Ram was an efficient clerk/typist in a large office. During his probation period, immediately following his being employed by the company, Ram made himself popular with his colleagues by helping them in their work when he had finished his own work. He was also popular with the supervisors for he was efficient with his work and did it intelligently

A year after Ram had been confirmed he started to take frequent trips to the canteen for his tea. The supervisor, Gupta warned him, but Ram maintained that he will stop visiting the canteen if it interrupted his work.

A few months later it was observed that Ram now not only took frequent trips to the canteen, but also took along with him some of his colleagues

Upon being warned by his supervisor Gupta, the Section Officer, he angrily proclaimed that Gupta was being vicious with him, and that as long as his trips to the canteen did not interfere with his work output, he was performing satisfactorily A long argument ensued between Gupta, the Section Officer, and Ram, the clerk/typist.

The matter was reported to the Commercial Manager, who called Ram, and in a friendly way explained to him how his going to the canteen was interfering with the work of the other typists and clerks. The Manager also explained to him how he was also expected to help in maintaining discipline in the office and in the group. The Manager commended Ram on the fine work he was doing, and suggested that one of his obligations as an employee was to assist in maintaining smooth flow of work in the entire organization—not create hindrances.

Ram assured the Manager that he would amend his ways immediately.

STRESS, MONOTONY, AND FATIGUE

Stress is not even necessarily bad for you; it is also the spice of life, for any emotion, any activity causes stress But of course your system must be prepared to take it. The same stress which makes one person sick can be an invigorating experience for another

Much work, even if not heavy labor, is fraught with stress, monotony, and fatigue. You must meet constant pressure of deadlines, mountains of paper work, and frequent changes. Continually you must adjust to friction, tension, conflict of ideas, and general wear and tear.

Stress occurs when there is pressure, injury, or overstimulation. You may react, aside from physical hurt, with nervous tension—being keyed up—or emotional disturbance. Restraint, fear, frustration, and conflict are among the factors which doctors think cause the wear and tear.

You cannot avoid stress. You must adjust to people and events. You must face the frustrations of doing things the way they have to be done even if it is not necessarily the way you think best. You also must

live with the emotional disturbances of associates, subordinates, and yourself, too.

Often you can avoid much of the wear and tear by shifting the point of pressure frequently, that is, by changing from one activity to another. This is like shifting the weight of something you are carrying before you rub your skin off. Thus people say that change is rest.

Consequently, it is healthy to change from one task to another. For most persons, though not for all, it is less fatiguing and stressful to have a variety of tasks. At least some fatigue-creating stress can be avoided when workers' abilities and skills are fairly fully used on the job. It is also relieved when you encourage expression, constructive achievement, development of individual personality, and recognition of each person's needs for job satisfaction. When work is a satisfactory experience, both the worker and the supervisor get a lift.

In dealing with individuals under stress, a supervisor should use understanding, a sense of humor, and faith in each person's capacity. Above all, he should permeate his actions with goodwill.

Sometimes frustrations show as irritation, often as apathy or withdrawal—what's the use of trying? This often gives the appearance of fatigue. In an office, fatigue is seldom due to physical exertion. It is usually emotional and mental. Whenever there is unsatisfactory emotional adjustment, symptoms of fatigue are likely to occur, if not signs of tension, irritability, or breakdown. These symptoms are reactions to stress or to monotony.

The limitation of interest may be serious when work is repetitive, but still requires watchfulness and accuracy in making fine discriminations. Where the work becomes practically automatic, the mind is free to wander and to follow trains of thought which may be amusing or interesting or depressing. However, some jobs demand enough attention to make a preoccupation with something else impossible, but not enough to fill the mind and energies of the worker. Jobs such as these may contribute to nervousness and even to mental breakdowns, particularly when factors outside the business make for an unhappy emotional tone. It has been shown that jobs which permit reverie or mind wandering frequently develop dissatisfied workers, since the free time is spent in brooding over real or fancied grievances in the business or personal environment. Much depends upon how well one has adjusted to life as a whole.

The relation between repetitive jobs, boredom, and mental fatigue is quite well established. Mental fatigue tends to be greatest when we are called upon to inhibit our natural impulses. One of these impulses is the tendency to react to distractions. When our minds are intent on

what we are doing, it is not hard to prevent them from wandering. But the hardest thing is to continue to do what takes only a little attention. Then indeed our minds slip into daydreaming. That is one reason why in a later chapter the authors have stressed job broadening.

Monotony does not affect workers equally. Some are happiest doing simple repetitive work. Many of these persons have less than average intelligence; they learn slowly, but once they have learned, they will be contented with limited jobs. Sometimes rearranging the work will remove the element of boredom and increase the effectiveness of the workers.

Supervisors often assume that a particular job is boring to everyone. It may be boring to them or boring to some of the workers who have tried it, but not necessarily to everyone. Employees frequently say about quite routine work, "What I like about my work is that there is something different all the time." Yet the range of interest is narrow. Often, small points are observed to give variety.

One elderly clerk was checking to see that the names and amounts on checks agreed with the requisitions, and he told us he got much pleasure from noting unusual names. His job was responsible, but repetitive.

An operator, totaling figures which have no meaning for her on an adding machine, may be thoroughly bored, or she may enjoy the job, as one girl we know does. She absolutely refused promotion, because she loved her work and she was too nervous when she tried work of a higher grade.

There have been various studies of the effect of rest periods of different lengths and at different times. Some of the results which have been attributed to rest periods are undoubtedly due to the fact that the work is being studied or measured. What is the best period for one person will probably not be the best for many others. Some compromise may be reached   ite period selected. Many industries and offices operate su   no definite rest periods.

Bad post   ant cause of fatigue among sedentary work-
., since   ag in such a manner as to interfere with
most   the body. Adjustable posture chairs
d to,   efficiency. They must be adjusted
the   y are likely to do more harm than
        ich sustains the body weight without
        the knee; they should have a seat
body; and the back rest should be
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Often you can avoid much of the wear and tear by shifting the point of pressure frequently, that is, by changing from one activity to another. This is like shifting the weight of something you are carrying before you rub your skin off. Thus people say that change is rest.

Consequently, it is healthy to change from one task to another. For most persons, though not for all, it is less fatiguing and stressful to have a variety of tasks. At least some fatigue-creating stress can be avoided when workers' abilities and skills are fairly fully used on the job. It is also relieved when you encourage expression, constructive achievement, development of individual personality, and recognition of each person's needs for job satisfaction. When work is a satisfactory experience, both the worker and the supervisor get a lift.

In dealing with individuals under stress, a supervisor should use understanding, a sense of humor, and faith in each person's capacity. Above all, he should permeate his actions with goodwill.

Sometimes frustrations show as irritation, often as apathy or withdrawal—what's the use of trying? This often gives the appearance of fatigue. In an office, fatigue is seldom due to physical exertion. It is usually emotional and mental. Whenever there is unsatisfactory emotional adjustment, symptoms of fatigue are likely to occur, if not signs of tension, irritability, or breakdown. These symptoms are reactions to stress or to monotony.

The limitation of interest may be serious when work is repetitive, but still requires watchfulness and accuracy in making fine discriminations. Where the work becomes practically automatic, the mind is free to wander and to follow trains of thought which may be amusing or interesting or depressing. However, some jobs demand enough attention to make a preoccupation with something else impossible, but not enough to fill the mind and energies of the worker. Jobs such as these may contribute to nervousness and even to mental breakdowns, particularly when factors outside the business make for an unhappy emotional tone. It has been shown that jobs which permit reverie or mind wandering frequently develop dissatisfied workers, since the free time is spent in brooding over real or fancied grievances in the business or personal environment. Much depends upon how well one has adjusted to life as a whole.

The relation between repetitive jobs, boredom, and mental fatigue is quite well established. Mental fatigue tends to be greatest when we are called upon to inhibit our natural impulses. One of these impulses is the tendency to react to distractions. When our minds are intent on

what we are doing, it is not hard to prevent them from wandering. But the hardest thing is to continue to do what takes only a little attention. Then indeed our minds slip into daydreaming. That is one reason why in a later chapter the authors have stressed job broadening.

Monotony does not affect workers equally. Some are happiest doing simple repetitive work. Many of these persons have less than average intelligence; they learn slowly, but once they have learned, they will be contented with limited jobs. Sometimes rearranging the work will remove the element of boredom and increase the effectiveness of the workers.

Supervisors often assume that a particular job is boring to everyone. It may be boring to them or boring to some of the workers who have tried it, but not necessarily to everyone. Employees frequently say about quite routine work, "What I like about my work is that there is something different all the time." Yet the range of interest is narrow. Often, small points are observed to give variety.

One elderly clerk was checking to see that the names and amounts on checks agreed with the requisitions, and he told us he got much pleasure from noting unusual names. His job was responsible, but repetitive.

An operator, totaling figures which have no meaning for her on an adding machine, may be thoroughly bored, or she may enjoy the job, as one girl we know does. She absolutely refused promotion, because she loved her work and she was too nervous when she tried work of a higher grade

There have been various studies of the effect of rest periods of different lengths and at different times. Some of the results which have been attributed to rest periods are undoubtedly due to the fact that the work is being studied or measured. What is the best period for one person will probably not be the best for many others. Some compromise may be reached and a definite period selected. Many industries and offices operate successfully with no definite rest periods.

Bad posture is an important cause of fatigue among sedentary workers, since the internal organs sag in such a manner as to interfere with the most effective functioning of the body. Adjustable posture chairs tend to prevent this impairment of efficiency. They must be adjusted to the individual, however, or they are likely to do more harm than good. They should be of a height which sustains the body weight without undue pressure on the leg just above the knee; they should have a seat which conforms to the shape of the body; and the back rest should be adjusted to fit the small of the back well forward of the position of the hips on the chair. In addition, the height of the desk, work bench, or

other equipment should be right for the employee's eyes and arms. If the seat is raised, a foot rest may be needed.

Seats and other equipment adjusted for a particular person should be carefully marked so that the proper person gets them each time.

SUMMARY

To be a real leader, in the opinion of a group of supervisors, you as a supervisor should :

Know yourself and your job.
Understand the nature of supervision and how it deals with work, people, and the relationships between the two
Develop ability to live with and deal with conflict, change, stress, and people.
Develop ability to manage work.
Have faith in people and their ability to grow with responsibility.
Take the wear and tear of the office with equanimity and good humor.
Develop ability to see relationships between people and their jobs.
Try to harmonize interests of the individuals with the needs of the company.
Develop ability to bring ideas and people together to communicate and understand sympathetically.
Develop ability to gain wisdom.

Developing

Your

Supervisory Capacity

A valid diagnosis of human situations requires *knowledge of ourselves*
The administrator as well as the scientist must be aware of, and ideally be
able to measure, the impact he has on the situation he is diagnosing Funda-
mentally, this requires *self-awareness. .it is impossible to understand
others unless we understand ourselves and we cannot understand ourselves
unless we understand others.*

Chris Argyris *Personality and Organization.* Harper and Brothers 1957. page 6

We have heard the saying that "to be master of men, one must first be-
come master of himself " I am inclined to believe that a natural ability in
group control results from the presence of reserves of this power over that
necessary for the ordering of one's own life

Erwin H Schell, in *Business Management As a Profession.* edited by Henry C Metcalf
McGraw-Hill Book Company 1927. page 310. by permission

It has been said that some men upon receiving authority grow, while others
swell This is but another way of saying that some men as they come to
larger and larger responsibilities in life begin to look upon their positions
more and-more from the standpoint of the obligations which are imposed
upon them. They feel the press of service demanded of them You will

always note that those in managerial positions who acquire and develop
that point of view make the very best managers
Walter Rautenstrauch in the above

The objectivity of the individual's perception of the situational factors
involved and of his self-concept will determine to a large extent the outcome
of his action. His other personality traits and past experience will also
determine the type and course of action he will undertake in selling the
goal object. Finally, the course of action has to be guided Consequently,
the person should have continuous feedback of the changes following from
his action. He must be able to perceive and interpret properly the cues he
gets from the external world regarding consequences following from his
behaviour. Only then he is able to bring the stimulus response sequence
to a successful finish.
H. C Ganguli, *Industrial Productivity and Motivation*, Asia Publishing House, Bombay, 1961, pages 26-27

Throughout this book the authors emphasize that the supervisor should possess or acquire sympathy with people and understanding of their individual personalities. This requires that he learn how mental and emotional processes function in people as they work alone or in groups. He must develop in his own character those actual or potential qualities of getting along with people. Finally he should create action patterns which translate his inner feelings and knowledge into effective action. This chapter presents some ideas on how a person can constructively develop himself as a supervisor.

The supervisor is a human being with needs, aspirations, talents, and weaknesses. At the same time he is also the occupant of a given position in a particular organization. There he is cast in the role of a leader in a complex situation. However, he is no abstract or ideal leader. He is a very human person situated among people with whom he has different relationships. We have stressed three relationships of particular closeness—with the members of the group he supervises, with his own superior, and with his colleagues who report to the same superior. Beyond these close contacts, relationships fan out to other persons inside and outside the organization. Usually he is in a constantly changing and developing situation. He must try to meet the needs of the situation and at the same time act like it good human being.

In all these relationships, probably the most difficult person you ever have to deal with is yourself. If you are to be anybody who is somebody, you must first reckon with yourself, and find out what kind of a person you are and want to be. There is one person in the picture whom you can never get away from, even in your sleep—the person under your skin. But how hard it is to deal with that person objectively

and factually! What wishful thinking and what self-deceit! You believe you have sincerity of purpose, but you find you have many purposes, some noble and some you would rather not acknowledge even to your best friend. You want to be a good fellow, but sometimes the things others are willing to do are not in agreement with your own standards of what is right and sound. Sometimes you feel driven by your situation. You feel you cannot really be yourself.

In this book we try to show that each person must be himself and also must recognize and respect the selfhood in each other person. If you try to have respect for the dignity and capacity of others you should begin with self-respect. Upon that foundation you can build the action patterns you need. As time goes by you can mold your character deliberately and develop your personality.

Let us take another look at the job of the supervisor. It is the consensus of various groups that a supervisor should :

> Have a well-rounded and pleasing personality.
> Be genial and cheerful in his attitude
> Consider the rights and feelings of others
> Be human, realizing that all of us have our limitations and weaknesses, but not holding them against his subordinates.
> Have sympathy for his staff.
> Take a personal interest in his staff.
> Be a good judge of human nature and character
> Have respect for the personalities of those about him, even if he differs from them in standards and actions
> Be stable and consistent in purpose and demeanor
> Be impartial and never play favorites
> Exercise tact and courtesy, especially under trying circumstances
> Be loyal to his subordinates and superiors
> Enjoy the confidence of those about him
> Be straightforward and honest.
> Control his temper.
> Have the courage to face difficult situations
> Be punctual.
> Be enthusiastic
> Have a detailed knowledge of the work
> State what he has in mind clearly and unambiguously
> Be accurate in what he says and does
> Lead

This formidable array is rather discouraging. Yet which of them can be spared from the make-up of a real leader?

Knowing where one rates high or low on these points is difficult. Yet

knowing one's self is the first essential toward improvement. The three main ways to self-knowledge are: (1) self-analysis; (2) analysis by others; (3) observation of the effect of one's actions upon others.

A number of self-rating scales are available. These are used to stress characteristics necessary for leadership. In recent years the opinion has grown that good leadership varies with the situation, the type of persons, and the kind of work. You should therefore keep in mind the actual behaviour required. You need to think what standard of comparison you have in mind. The question, "Are you good at remembering names and faces?" implies that you will compare yourself to other persons or to some standard. Should you be able to remember two new faces a day, or twenty, or two hundered? What is good? What do other people do? On this capacity a salesman or a politician needs a higher standard than a bookkeeper.

In spite of the weaknesses of self-analysis, we give below a set of questions modified from a list used by Glenn L. Gardiner.

1. *Mutual respect of supervisor and subordinate* Do I enjoy the respect of each individual under me? Have I done any specific thing, by act or word, to demonstrate to each person that I respect him or her? Do I ever take any ungentlemanly liberties with women subordinates?

2. *Open-mindedness in disagreements and toward suggestions.* Am I glad to have subordinates come to me with their suggestions? Can I remember having been stubborn about accepting a viewpoint of my subordinate? Do I listen patiently, and without annoyance, when a subordinate presents an idea with which I disagree?

3. *Understanding with subordinates of what is required* Does each person know what he is supposed to do to win advancement? Have I sat down with each person and had a full and frank talk with him about himself and his work? Do I do this at least once a year?

4. *Approachability.* Do subordinates approach me timidly? Do I consciously try to make it easy for my subordinates to take up personal matters with me? When a subordinate approaches me with something on his mind, do I keep him standing, waiting until I finish the task immediately at my hand or do I give him my attention at once or at least acknowledge his presence and ask him to sit down? Do I ever avoid the approach of a subordinate by putting on a busy air?

5. *Self-control.* Do I indulge in arguments with subordinates? Do I let my personal problems affect my manner of dealing with my people? Can I control myself under trying and irritable circumstances? Do I lose my temper?

6. *Keeping promises* Do I ever make promises, the fulfillment of which is dependent upon the approval or act of someone above me? Do I make a promise with the intention of finding some logical way out of it before the

time to keep it arrives? Do I ever have to be reminded by my subordinates of promises I have made to them? Have I any outstanding unfulfilled promises now?

7. *Patience* Do I become irritable when subordinates do not live up to the letter of my expectations? Am I willing to repeat instructions to subordinates who are slow to grasp new ideas? Am I greatly annoyed by minor mistakes?

8 *Fairness, impartiality.* Do I allow personal likes or dislikes to alter my treatment of individuals? Do I have any special arrangements or dealings with individuals that I could not explain logically and satisfactorily to others under my supervision? Have I the strength to be honest and impartial, under all circumstances?

9 *Understanding of human nature and sympathy.* Do my subordinates ask me for help with their personal problems? How many times have they done so in the last year? Do I read books and articles on handling people? Do my subordinates show sympathy to me? Do I fit the job to the worker as well as the worker to the job? Do I make allowance for bad health, worry, or sorrow?

10 *Loyalty* Do I put my personal interests ahead of the interests of my workers? Do I accept full responsibility for the mistakes of my department, or do I lay the blame on individuals under me? Am I as sincerely loyal to my subordinates as I want them to be to me?

11. *Appreciation* Do I show pleasure when work is performed unusually well? Do I express satisfaction to the person doing a consistently good job or do I only mention outstanding jobs? Do I express my appreciation not only to the one doing the good work but to others?

12. *Consistency.* Do I ask for too much work sometimes and too little at others? Do I give privileges some days which I will not give at other times under similar conditions? Are my requests consistent with the difficulty of the work? Are they consistent with the ability of the workers?

13 *Reasonableness, standards of quality and quantity.* Do I ask my subordinates to do things I would not care to do myself? In assigning tasks I have never actually done myself, do I give careful consideration to the amount of work I can reasonably expect a subordinate to turn out? Am I impartial about requiring overtime?

14 *Observation* Do I know upon what work each subordinate is working each day? Can I write down the way work is handled in my department? Are infractions of rules or of good practice usually called to my attention by others or do I usually observe them first myself?

15. *Aim* Do I have a definite goal for my department or division? Do I expect to get out a certain volume of work? Do I have a standard of quality which I aim to reach? Do I aim to develop my subordinates by a definite plan?

You can rank yourself by grading 3 on each of the above groups where you feel you are distinctly above average; 2 on those groups

where you are about average; and 0 on those where you feel you are below average. A total of 45 would be perfect; 30, average; 15, poor.

If someone asks you to give him suggestions or to help him analyze his character, you will be showing him the sincerest friendship if you talk with him thoroughly and frankly. It will be all the more friendly if you do it with the realization that you may lose his friendship by your frankness. You may make your advice more helpful if you follow some of these suggestions:

1   Ask him to analyze himself first, so that you can tell what points he has in mind and what his own opinion is. Then you can not only tell him what you think but you can point out where his judgment of himself differs from the opinion of others

2   Be sure to comment on praiseworthy actions and characteristics as you come to them   Temper honest criticism with sincere praise.

3. Try to give the views of others about him, rather than only your own. Do not mention the others by name, but possibly say, "In some way or other you have got the reputation of being conceited" or "Regardless of how you feel yourself, when you do so and so you give others the impression that you are trying to get out of your share of the work."

4. Do not pass any moral judgments   Talk on the assumption that he is fair at heart and that your job is to analyze his actions and the impression which they create on others   If he has angered or hurt you in the past, be impersonal about it   If you make a charge in an impersonal way and he wants to know whether you think it is true, try to avoid committing yourself. You could state that such an interpretation would not be an unfair inference from the actions observed, but that you are not acting as judge.

5   If you have some severe criticisms to make, or if you find that you are giving him rather more than he can stand· on the first interview, tell him you would like time to think further about certain things, and that if he wishes you will talk with him again: or else close off the conversation and several days later take it up again, with such words as. "I've been thinking about our talk of a few days ago, and it occurred to me that one point we should have mentioned was. .."

6. Remember that many different motives may lead to the same action and, conversely, that many different actions may result from the same motive in different people.

7   Criticisms of weaknesses which on account of settled character or lack of ability cannot be corrected are likely to result in more loss than gain

If you want someone to help you, you might suggest that he follow the method just described. He should know you well and should be frank. You will be fortunate indeed if he is also truly tactful. Tact is

not the suppression of unpleasant facts, but their presentation in the least offensive way.

You must control your annoyance if your friend tells you things which you do not like to hear. Hearing merely nice things may inflate your ego, but will not help you to get along better. If he mentions faults which he thinks you have, or which he says others think you have, do not try to defend yourself, but encourage him to tell you all he can about the situation. You may not be guilty, but if your actions are such that other people think you are guilty, you had better change your actions.

HABIT FORMATION

Having decided what characteristics or habits you wish to develop, choose only one or two which seem to be most important. Do not try to become perfect all at once. It is better to be consistent in improvement than to try too much and fall back. Will-power and a real desire to develop the new habit are essential. The desire may be built up by realizing the good consequences which may be expected.

There are recognized methods of habit formation. The classic statement, made many years ago by William James, is summarized as follows:

1. First make up your mind that you really will overcome the old habit and develop the new. Think as clearly as you can about the advantages of the new habit until you are sure that you really want to establish it. In order to reinforce your resolution, tell others about it.

2. Substitute a positive, good.mode of action for the old, bad, or negative mode you are getting away from.

3. From the time you make your resolution, allow no exception to your resolve. Start today—not when you get around to it. If you slip into the old habit, impose some penalty upon yourself, thus attaching an unpleasantness to the old habit.

4. Practice the new habit all you can; make opportunities if you can for its development and practice.

For many years the importance of correct reasoning has been impressed upon us. We live in an age where imagination is coming into stronger prominence. The art of advertising has shown us how prone most of us are to act on reiterated suggestion. The executive can take advantage of his imagination as well as of his reasoning powers. What he strongly suggests to himself sets up a process of thought which may bear fruit later. Not only can he set before himself problems on which

he requires an answer, but he can influence his own habit patterns by suggesting to himself what he wants to do. Suggestion takes effect when a person consciously constructs in his imagination what he is going to do. He may begin with reasoned analysis of what he should do. Then he projects himself into the future situation, actually seeing in his mind what action he will take. As dramatically as he can, he makes sound pictures of himself: feels himself going through the motions, and uses his senses to create a situation in advance. These vivid imaginings apparently make a deep impression on the mind and lead to a reproduction of the pattern in actual living. The method sounds thoroughly childish; but adults who have tried the childish method of actually talking to themselves about what they are going to do and picturing their conduct find themselves less childish in actual living, since they live true to the best thinking they can do rather than yielding to the line of least resistance when a situation arises. By the power of visualization we become what we look at, subject to the laws and limitations of our own nature. Many a man has been changed by a new picture of himself put before his mind.

The more positive is one's thinking, the more powerful is the impetus towards bringing it to fruit in action. Many people hold themselves down by the evil effect of negative suggestion. The reiteration of "I can't" will have its result until some strong influence breaks up the restriction. A mother, for instance, may think she is so afraid of the water that she cannot bring herself to go out in a boat—until her child is in danger, when she will go forth to do what she can, laying aside her fear. The holding of a positive attitude has a cumulative effect. Naturally the result must be within the capacity of the individual. The boot-polish boy will not become managing director simply by telling himself he will. The attitude "I can do that" should be followed by the question "How can I do it effectively?" Observation and reason can reinforce what will and imagination envision.

The building of definite action patterns is a great aid. A lecturer said that he found ease in public speaking by visualizing himself on the platform, choosing appropriate gestures, listening to his own voice to make it effective, and developing his attitude to the audience deliberately.

Without insincerity, one may develop actions appropriate to the occasion. David Seabury in one of his books says that one would not go to a hunting party in evening clothes nor to a formal dinner in a bathing suit. We dress our bodies in a way appropriate to the activity. It is even more important to clothe ourselves in proper mental costume, putting ourselves as fully as possible into the mood appropriate to the situation.

MANNERS AND APPEARANCE

A person's manners and appearance have weight in the impressions he gives to people. The basis of good manners is respect for others and for ourselves, revealing itself in courtesy and consideration for the other person's feelings and needs. Good manners make for easy relations and soften points of friction. Almost everyone remembers to show common courtesies to the boss but some forget to do so with equals or subordinates. The best-mannered people treat all persons in a considerate way, whatever the rank or status.

> "You know, since Karan got married he has really mellowed," said a colleague to a mutual friend "He used to come into the office every morning and go past a dozen people without a word. Now if I say, 'Good morning, Karan,' I get a greeting in return, or at least a smile He always meant well, but he never realized that people found him frosty."

Relations with people are kept friendly with words of greeting and casual conversation. Such behaviour when it springs from genuine kindliness brings returns in warmth and need not take up much time. It is worthwhile to examine how you meet people. Do you look them in the eyes? Do you smile? Do you shake hands warmly? Maybe a friend will help you check on yourself.

An important part of good manners in the contemporary world is the easy introduction of a stranger. This is particularly important in work-connected meetings when a person is new to the group. In introducing him to others it may be helpful to indicate a common bond of interest. "Kumar here is a soccer fan" or "I knew Arjun at school where he was an excellent tennis player" or "Das had a year of training in England with the ABC Company and has just been moved here from Madras."

Now that it is becoming common for wives to attend company social functions or management meetings with their husbands, it is important for a lady to take the lead in making the social relations easy. Many a wife is very shy and needs a bit of encouragement and friendliness from the other women.

Etiquette between men and women calls for special mention. Manners customary in social relations are used among fellow employees off the job and on the premises away from the workplaces of those affected. For example, a man offers to carry anything heavy for a lady and stands until she sits. In his own workplace, some of the customary manners are adapted a bit and he treats both men and woman subordinates very

much alike. However, he should not precede a woman through a door unless she specifically asks him to go first. When a woman with whom he does business frequently comes into his room or up to his desk, he normally does not rise. He is careful, though, not to keep people standing for any length of time without rising or offering them a seat. A lady supervisor likewise does not keep a man standing. When a business group is seated and a lady comes into the room it is not customary for men to rise unless to offer her a chair.

Manners are useful in conversation too. You should adapt your voice to the room and not speak too loud. Be careful not to interrupt or contradict others. When you disagree, do so clearly but not assertively. Benjamin Franklin set an example by using phrases such as, "It seems to me that . . ." or "I thought I had observed such . . ." or "I wonder if you have heard this."

Appearance is important, too, in making a favorable impression. Good posture and some spring in the step are assets. Clothing should always be in good taste and adapted to the particular work place. The type of dress worn varies greatly, not only with the climate and with the customs of the locality but also with the particular organization or subdivision.

The supervisor's clothing and grooming are noted by colleagues and superiors and set the tone for subordinates. A woman supervisor, in particular, has an influence on the young women starting in. Conspicuous or overdressy clothes and hairdos are inappropriate. Too casual an appearance should be avoided also. In many places men work in shirtsleeves. In some, sportshirts are worn but not the very flashy ones. It is often the custom to put on a coat to go to the room of a superior or to a conference attended by superiors or outsiders.

Good grooming is important in the case of both sexes. Clothes should be clean and neat; hair, fingernails, and teeth well cared for. Personal cleanliness and daintiness are expected. Neglected pyorrhea or slovenly appearance has been the cause of lack of promotion, yet superiors are diffident in mentioning such personal matters. Even stains from *pan* may be frowned upon in many places.

PERSONAL EFFICIENCY

One's personal efficiency is largely a matter of habit. Some persons are habitual procrastinators, daydreamers, or interrupters. Proper health habits are of great importance in avoiding the slight illnesses which do not keep people away from work but which lower their vitality and often constitute unnecessary handicaps. Suitable food, regular

elimination, and enough rest are important for everybody; exercise is of great importance to some. Health is fostered by hygienic habits and prompt attention to ailments, and even more by a healthy and happy outlook on life. Recreations, outside activities, and beliefs may have important reactions on effectiveness. Having hobbies, outside interests, and spiritual resources is often of much more importance than devoting all of one's time to business.

Most workers have their business time directed in considerable detail by their supervisor, but supervisors have to direct themselves to a considerable extent. How effectively they do so will often determine how far they will advance. One person working long hours may do less in a week than a faster person who works fewer hours. Sometimes the supervisor who normally puts in a great deal of overtime does so because he is a poor organizer. "Some of the busiest people in the world are only picking up the beans they have spilled." When overtime is necessary, it is frequently possible to do after hours different parts of the work from those which fill the regular day. The change provides a certain amount of rest.

A detailed analysis of how you spend your time for a few days may suggest ways of improvement. Keep a sheet of paper on your desk and record on it the time you change from any one activity to another, noting briefly what each activity is. Record every interruption, and note whether it seems necessary or not. You may find that a number of interruptions are caused by yourself. Maybe you should save up questions for others and take up several matters at a time, and maybe you need to train others to do this with you. In any case, the record of how your time goes will give you the basic data upon which to plan more effectively.

After you have kept the record for a few days, find the amount of time you have spent upon different types of items. Make up your own list of headings. You may want to analyze the record in several ways: according to the type of work, such as planning, training, correcting, personal work, and so forth; or according to the subject worked on, as new orders, back orders, cancellations, and so forth; or according to the persons involved, as Mr. A, Miss B, and so forth. See how much time you actually spent in planning for your department's better operation, how much was spent on problems which arose in connection with the routine (that is, without getting into the question of revision of the department's work), and how much time you consider was purely wasted. Determine what wastes you are suffering from and who are causing the most interruptions. Deal with factors which are your own peculiar problems. You may get some ideas on how to cut out some

wastes from portions of this and other books.

It is helpful in most jobs to plan your time in advance. You may wish to list each evening the ten most important things to be done the next day. At the close of that day, the accomplishment should be compared to the plan. Keep the list in front of you during the day to help you put the schedule through. There is usually so much that a supervisor could do with his time that he must be careful not to neglect things of major importance in order to handle minor things with too great thoroughness.

Each day time should be set aside to think. A supervisor needs to reflect about many problems and analyze their effect upon his work and people. If he has an important decision to make, he should look at a problem from all points of view, and in terms of the whole business. Some people like to think in the early morning hours when their minds are fresh; others think best later in the day.

In some workplaces definite times are set aside when the supervisor is not to be interrupted except for urgent matters. During these "quiet hours" important matters can be handled or plans requiring concentration can be developed. Matters that require consultation with others can be put aside to be taken up later. Even if there are no quiet hours for the workplace as a whole, a supervisor can arrange that his staff interrupt him only for urgent matters during certain hours.

Time can often be saved by writing a brief note long-hand instead of telephoning, seeing a person, or dictating a memorandum.

Seeing callers promptly is not only appreciated but will often save your time. Tell them you will see them without delay since you can spare only a limited time.

Much time is often lost in deciding what to do or say. Some executives rate a man upon his capacity to make no wrong decisions. Others rate him upon the number of his right decisions and consider how many right ones he makes to each wrong one. In the first case, there is a temptation to make few decisions and to be as sure as possible that each one is right, or at least backed up by precedent. In the second case, there is a real stimulus to the development of new ideas and a force which makes for growth. Learn that decisions can be made rapidly if you develop the habit of using the steps of preparation, incubation, illumination, and verification.

Some persons waste time putting things off. They may think that it will be easier to make a decision later, or when they have more time. They use up time and energy thinking half about the problem and half about how they can postpone it. Usually it is better to tackle it promptly. If a proper solution is not found, fix in your mind exactly what the

problem is, so that the process of incubation can go on, and decide to to lay it aside for a time.

BUILDING YOUR OWN KNOWLEDGE

You can get much help on management from the experience of others. Your work is probably "different," so you will not adopt ideas without adjusting them to your own conditions and personnel.

Professional organizations provide a great deal of information. In almost every industry there are trade associations which encourage an exchange of facts and experience. There are also a number of management associations, particularly the American Management Association, the Society for Advancement of Management, the Administrative Management Society (formerly the National Office Management Association), the National Association of Cost Accountants, the Life Office Management Association, and others in the United States. In India most of this material is available directly or through related or affiliated organizations. Local management associations and other professional groups and institutions can also serve as a valuable source.

Attending the meetings of management and other professional societies is an excellent way to pick up ideas and meet people in similar lines of work. Several of the organizations mentioned have meetings in major cities practically every month. All of them hold conferences one or more times a year. A few minutes' talk with the author of a paper that could be read at home will be worth more to you than his article. Contacts at the meetings may enable you to write to others when you have an especially troublesome problem or when you want to see first-hand how other companies are operating.

The degree to which competing companies welcome visitors and interchange ideas varies from industry to industry and from company to company. On the whole, there is a spirit of cooperation. If you get a chance to see how another company handles problems like yours, you probably should take advantage. It is only seldom that one can make a direct application to one's own line, but the variety of ways in which companies have met similar problems is a challenge to make one's procedures more efficient.

The history and structure of individual companies have a great deal to do with the way work is planned. Even in insurance, where all the companies must make uniform annual reports of their operations and standing, there is a great difference in internal organization and operation. Things which one company considers essential, another gets along without. Thus a visitor may be stimulated to revise his routine,

or he may return pleased with his own efficiency and convinced that his host is doing unnecessary work, although his host might see in his routine superfluous things of some other variety.

The publications of the management associations mentioned previously are very likely available to you within your own company, especially if there is a library. Libraries in institutions of learning teaching management and engineering have substantial collections of magazines and books on management and on supervision of people.

A review of current and past publications will give practical hints on work routines, the application of machines, and the standardization of production. You will probably find night courses in nearby colleges, universities and other institutions. Your own company probably encourages the participation of its supervisors in courses and may either already have supervisory training groups or be glad to start them.

Perhaps one of the most stimulating activities along planning lines is to write an article oneself. The detailed study demanded for producing an intelligent article on almost any procedure leads to a better view of the work and places it in perspective in a broader field. It does not matter particularly whether the article is published, or used as the basis of a talk to an informal group, or indeed never used at all.

Although a supervisor will get valuable suggestions from meetings, reading, and association with others in his line, the most important way of improving work is by painstaking analysis of what is to be accomplished and of how it is being done.

Before making a decision on an important problem, one supervisor tried to go fishing or take a trip or otherwise get away from things. Thus his subconscious mind could mull over the problem.

Find out how *you* do your best work. In short, do not just drift. Apply common sense to the way you handle yourself and your job. Try to be as objective as you can be, and think of the wider and long-term implications of your actions. Do not forget that consistency in actions is a valuable assest.

Managing the Work

I keep six honest servingmen
(They taught me all I knew);
Their names are What and Why and When
And How and Where and Who.

Rudyard Kipling "The Elephant's Child ' *Just-So Stories*

In the first place. there is the supervision in which there is absolutely no order. in which there is no prevision and no planning. the supervision which attempts to resolve a succession of unexpected problems and things to be done. in which the executive is all the time on the qui vive as to what must be done next and as to who shall do it next. and in which the workman is at the same time on the qui vive as to what he shall be directed to do next. . .

In the second place. there is the supervision of pseudo law and order that the system-monger establishes Here we have the appearance of precision in the coordination of the efforts of workers separated in space and time. but really a limited coordination: and usually the procedures of such coordination generate a large amount of irritation because of the emotional reaction to confusion which can arise where there is ill considered. unnecessary red tape

In the third place. there may be a supervision that will bring about the reign of law and order in an enterprise. an atmosphere into which the worker may come and say, "Here one feels one's self under command without being commanded." To be sure, that involves routine and system. but every element of the routine and system must be devised to meet the particular situation and must be obviously essential to the particular situation It must be the result of painstaking investigation. experiment. explana-

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tion, and informal instruction. If it meets the situation and sets up a reign of law and order, it is, as I conceive it, the highest type of supervision procedure that we can have.

Harlow S Person, in *Psychological Foundations of Management* edited by Henry C Metcalf, copyright McGraw-Hill Book Company 1927, pages 145-146, by permission

The difficulty is to get things (done) and to think of the workers as people, at one and the same time . In a very small unit it is not necessary for you to have any specialist's approach to the people at work. In a less small unit, or in an organization where there are very definite rules laid down for behaviour and activity (as in the case of armed forces) it is easy for one man to handle the personnel function of management along with the others. . . . But at a certain stage of development as the organization grows, one or the other of a number of things may happen. The manager may find himself spending far too much of his time on detailed personnel matters. Or he may find that he has to neglect them in order to fulfil his other functions

I find that in India most of the managers spend at least half their time on personnel matters, on one of the other aspect of labor management or on labor laws and so on

J. S. P. Mackenzie, "The Changing Philosophy of Personnel Management and industrial Relations", *Management Bulletin* January-March, 1966, Department of Business Management and Industrial Administration, University of Delhi, Delhi, page 28

YOUR RESPONSIBILITY FOR MANAGING THE WORK

We have emphasized that the supervisor's responsibilities are concerned with human relations and with managing work. Most of the remainder of this book relates to managing work.

Even when we are talking about the work, people are still involved. We must not forget that work is performed by people. Moreover, if the work can well be done by someone working alone, an organization is not needed at all, and therefore you as a supervisor would be out of a job. An organization implies and requires cooperation. Every change in work either maintains cooperation, heightens it, or dampens it. If the desire to cooperate is damaged, productivity usually falls. If people work with a will, productivity usually is good. If people are reasonably well selected and trained, and if they want to do a good job, the chances are that you can get out the work even with inefficient space and with antiquated equipment and systems. But if your people are active-minded and if the climate is such that they feel willing to make suggestions, they will be ready to help with suggestions on how the conditions and procedures can be changed for the better.

There are numerous sources of ideas for work improvement. You doubtless have ideas yourself. Your boss and colleagues have them too.

You may get thoughts from meetings, books, and articles. Then, too, the company may have staff offices which work continually on improvements or on checking into results. If your company does not have units for planning and control, your own efforts are obviously needed. If such facilities are available, your active participation and your cooperatively critical attitude toward their work are great assests.

Whether there are planning and control units or not, you cannot hope to become an expert all at once in the many fields of management. But you can readily acquire the major principles and techniques and learn to apply them to your work. Then you can collect information intelligently and you can study one or more fields which seem most important or congenial or both.

SOME ESSENTIAL QUESTIONS

Kipling's widely known lines quoted at the beginning of this chapter form a good working guide to the managing of work.

What is to be done and *why?* When we can answer these questions, we are reasonably clear on the *objective* of our tasks. This is the first step in good management.

When, where, and *how* shall the ·work be done? These questions are answered through *planning and scheduling.* What are the requirements in time and place? What means shall be chosen to achieve the objective? What procedures, machines, materials, and so forth? Are the means available? Different machines may accomplish a better result more quickly than the present method, but if the machines' cost is higher than the resulting saving, the money is not likely to be forthcoming.

Who shall perform the different tasks? People with the needed skills must be available. Moreover, most companies do not turn people off as soon as they can be replaced by machines. Rather, the installation of more efficient methods is planned in a manner which will not lay an axe to the roots of morale, loyalty, and cooperation.

Other important questions are: *How much* should be done in *how long* a time? *How well* should each task be done? The answers require the setting of standards and controls. It is not enough to say that finished work should be accurate. How accurate does work need to be? If you get excellent finished work by extremely careful checking and by rejection of imperfect products, are your costs then too high for the importance of the result? Or is the result too late to be useful?

Please note that the questions apply to many different kinds of work, whether in manufacturing, commerce, government administration, or hospital or hotel management; and whether professional, subprofessio-

nal, clerical, or manual. We shall take up technology and specialization in a later chapter.

The subject matter of the questions is interrelated. For instance, *what,* namely the objective of our tasks, is often influenced to some degree by the *method* available. As to *quality,* we may have to settle for a finished product less good than we desire; or an improved process may lead purposefully or accidentally to a better product than was originally visualized. Also, the *place* and *time* of performance may vary. There is much latitude concerning the *people* by whom and for whom the activity is conducted. This line of thinking is continued later.

PLANNING

Planning is the process of consciously selecting and developing the best course of action to secure your objective. Planning is the general term for foreseeing the whole procedure from the time a task is first outlined until it has been completed and checked over.

Everybody plans as a natural thing. The housewife makes a rough plan for her meals before she does her shopping. She then makes more detailed plans when she sees what is available at a good price. A family may plan its holiday pilgrimage by deciding the destination and then discussing alternative routes, weighing their advantages and disadvantages, and then picking out a general outline. On the trip itself, changes may be made because of road conditions, weather, the health or illness of a family member, or maybe just because of current desires.

Scheduling is a particularly important part of this planning because time usually affects both service and cost. In many cases, time is indeed money. The cost of even the smallest computer is high; even conventional punched card equipment is expensive. Neither can be used effectively unless the flow of work to the machine is precise. Even a few minutes cut from machine time represents a saving (provided the machine can be used productively in the time saved). Moreover, preparation of data so that they mesh together well spells the difference between excellent information and spotty or unmeaningful statistics.

These considerations may not be important to your work just now. With the rapid advancement of data processing by electronic means, however, you may be more involved tomorrow than you think. The work you are responsible for may be readjusted so that it can be done better by machine. Even if it is not, you may find that it has to be processed more accurately or in a more even flow because so many related details of the business are being geared into one integrated system. It is therefore wise for you to be aware of the possibilities and informed

about ways to make constructive use of them.

Planning, as we have stated, always begins with the objectives to be reached. We must be clear what we want before we do much about getting there. At first we may have rather a hazy idea of what we want. Then we visualize it more sharply. Later we often see the objective as containing a series of detailed objectives, each of which may require a series of actions.

Planning is bound to be involved when a group of people take part in the same system—for an organization, we should remember, is a "system of cooperative activities." Most activity or action is performed in the workplace. There the worker applies his personal energies to accomplish an immediate definite objective. The worker's part is indispensable. So is the coordination of his efforts with the efforts of others. This means that all the people who work on an activity really must have a common understanding of what is to be done. They need to know what part each person plays in a specific act. If this common understanding is absent or dim, effort cannot be truly intelligent. To some degree, then, cooperation is lacking.

A change desirable in one spot may require a change in activity by someone else. Thus communication becomes necessary. This need for communication is one of the basic reasons why the supervisor or the executive is necessary. We brought out this point in an earlier chapter.

At present we want to emphasize that planning is necessary to maintain fruitful teamwork, so that action will take place at the right place at the right time by the right person in the right way. Much of this action occurs at the workplace itself, in answer to the immediate situation. But plans for action must be dovetailed through a series of decisions at different times and places by different people. Thus planning in an organization of more than a few people needs to be somewhat systematic. Planning is normally done to some extent by every member of the organization, but it is frequently specialized in some specific jobs.

Systematic planning may be broken down into a number of steps for analyzing the needs for action, making a decision for action, and setting up the policies, methods, and schedules by which the action will be carried out. These steps are quite complicated when a large new venture or a big change of system is involved. The usual steps are listed below and then illustrated with a relatively simple example.

The normal steps in planning are to :

1. *Recognize the problem or need for action.* This includes the need for a policy covering similar actions. The larger the organization, the more important it is to consider the needs of others.

2. *Consider the possible alternatives for action.*

3. *Detect the key factors in the situation*—the things which can or cannot readily be changed, the things which encounter strong patterns, customs, and feelings, and those which cost a great deal of money or require important changes in personnel.

4. *Analyze the possible alternatives in relation to the key factors* and sort down your ideas into one or more possibilities which take your key factors into account.

5. *See what kinds of facts you need* to give light on your alternatives or on your key factors and go after the facts.

6. *Analyze and interpret the facts and select one or more of the possibilities* to work up into tentative proposals.

7. *For each proposal, see what would be required*—the changes needed in policy, method, schedule, budget, and personnel. *Determine the critical points where you could see whether the plan is being carried out and what the results are.* This is the basis for *control.*

8. *Decide on the best proposal.* You may do this yourself, or more likely, your boss or his superior will do so in consultation with others.

9. *Refine the work* you did under point 7 to the degree necessary *to put the plan into effect.*

10. *Follow up* to see how the plan is working and what the results are.

In order that you may get the real feeling of each of these steps, we shall take an actual example and follow it through each step. Suppose one of the tasks of the unit which you supervise is to take the records of sales in each district and study each individual salesman's record. On the basis of your study you put through changes in their base pay, in accordance with plan. You also make recommendations to your superior for the promotion or firing of these people. You have been doing this work on a monthly basis. However, you are not satisfied with this basis because some months are longer or contain more week ends than others. You have been turning over in your mind the idea that a comparison every four weeks would be better. You mention this to your boss and he tells you to work out something definite and bring it to him.

1. You analyze the problem more carefully. You note that several objectives are tied into the comparison you make. First, it is part of a plan to reward the salesmen in relation to their results over a period of time—their base pay is now adjusted every three months on the basis of results the preceding three months. If they show good records, your boss considers them for promotion. If they do not make their

quota, he may fire them. Second, your superiors use the figures to compare district totals this month with those of last month and the corresponding month last year.

The data come to you from the accountant—like your own boss he is an important man in middle management. The figures come in from the field offices on sheets in date order showing type of sales and name of salesman. The accountant's clerks make up a statement for you by salesman and district and show the base pay and the rate of commission, varying with the amount and type of sale. The accountant pays the salesmen weekly and keeps their earnings records for tax and other accounting. These figures are totaled for each month, quarter, half-year, and year. Your own comparisons are made that way, too.

2. You note that it seems feasible for you to make comparisons every month, as you are doing, or every week or four weeks. Here are your alternatives for any change.

3. Key factors appear to be (1) you must be able to make prompt adjustments in the base pay of salesmen and prompt recommendations on their promotion or dismissal; (2) you must be able to give your superiors the district figures they want; and (3) since the figures come from the accountant and are used for a variety of purposes (not just by you) any change you want made in the system must tie in with what other people need and will accept.

4. Now you are ready to analyze each alternative in relation to each key factor. You see that extra work is performed by the accountant in getting weekly totals to pay the salesmen but making monthly totals for reports. The weeks do not fit into the months evenly. The key tax and other accounting reports appear to be on a quarterly, semiannual, and annual basis. The salesmen's base rates are adjusted quarterly. You see that your recommendation about salesmen's earnings figures is not going to influence these time-honored accounting habits. The real question appears to be whether it is better to divide quarterly figures into months or into weeks. As far as you can see, the monthly figures are not needed unless your superiors want them. Obviously they want district comparisons without waiting thirteen weeks. You could meet their needs by summarizing the weekly figures as often as they wish, say, at the end of the fourth and eighth weeks of the quarter.

5. Before you proceed with your tentative plan, are there any facts you need? Actually, you are very familiar with the system, and you have them at your finger tips.

6. You sit down once more to interpret the facts and you make a discovery. The comparisons your superiors want by districts are actually the total sales figures. Only occasionally do they ask for the data by

salesmen. So you really could suggest that the accountant give them the sales figures by district. You, however, will be prepared to summarize the weekly data by salesmen when required. You will no longer have to make up the summary by months, which is very awkward and time-consuming.

7. You are almost ready to write up your proposal. The change of procedure is quite simple. The accountant likes it. It will save money and clerical time. You will now have the time to prepare the earnings figures in graphical form. Oh, yes, the boss will like that. It also means that you can plot these every week. Then any time he wants the data, here they are! This means, too, that you can see if a salesman is slipping badly, or a whole district, and you can immediately go to the proper sales supervisor. It is not only your boss who will be pleased. These others are going to have real controls at last

8. You write up the proposal very briefly and your boss agrees.

9. You have a talk with the accountant, who agrees to go ahead. So you talk with your own clerks about discontinuing the monthly summary and starting the graphic weekly summary instead. You perfect the detail of the new graphic report, in consultation with the sales supervisors. You decide which clerk will keep the graphic work and show her just how to enter the data. For a few months you check it yourself.

10. You follow up to see that your boss is getting what he needs from the figures the accountant is providing. You find that your boss and the sales supervisors are well pleased with the results.

It is interesting that your final proposal, now working, was not your original idea of comparisons every four weeks but an alternative using comparisons every week and every quarter.

FACTS AND RESEARCH

Planning is directed toward the future and requires foresight. However, it also requires knowledge of the present and the past. In other words, it normally requires fact-gathering. Often the data are at hand and merely need to be given a careful look, as in the illustration given. At other times, you may need to look up records in other parts of the company or get the published reports of your industry or other industries. Many problems require lengthy investigation to secure data. To analyze the data you will find a variety of techniques—in economics, statistics, marketing, human relations, and all the fields of management. You cannot personally do all of this; but usually on your own problems you can find useful materials. A library, or your management associa-

tion, or your local management educators may be able to help you in hunting up what you need. Your colleagues are usually glad to help with their specialized knowledge.

You can take account of what research really is. You can train yourself to take an objective and responsible attitude toward the analysis and interpretation of facts. *Research,* according to Webster's International Dictionary, is "careful or critical examination in seeking facts and principles." It is an attitude of mind. It requires careful statement of a problem, gathering of facts under carefully controlled conditions, interpretation of the data, and drawing of conclusions.

Much of what passes for research is only careful analysis and objective use of data. True research in the spirit of *scientific method* involves one additional idea—the deliberate setting up of a tentative solution which is then tested by analysis of facts and by experiments. The hypothesis may be, perhaps, that authoritarian methods of handling personnel give rise to outward conformance and inward frustration and that at a later point the frustration shows in acts of aggression. Manifestly, this is not easy to prove or to disprove either. That is why scientists may spend years on one hypothesis. We in business cannot usually take the time and effort to get proof. We can, however, take advantage of research findings and we can ourselves use the objective, imaginative, and painstaking approach of science.

One development of current interest is *operations research.* It is the application of scientific method to the study of business or other operations. The purpose is to provide executives with a quantitative basis for decisions, thus increasing the effectiveness of operations.· Operations research is performed by a small team of scientists drawn from different specialties. For example, their knowledges may include mathematics, engineering, accountancy, market research, and economics. They analyze the problem and seek the characteristics of each key factor. They then set up a "model" which has these characteristics. · They try out the model under different experimental conditions. The results are then stated as alternatives for executive decision. The model may be physical, such as the airplane model which aeronautical engineers try out in a wind tunnel.

Usually the operations research model is mathematical in nature. It may be physically represented by a pack of cards punched with statistical data. The significant variables in a situation may be expressed in mathematical equations. A theory is devised to explain why the operation behaves as it does. This theory is then tested by noting the effect on the "model" of different changes. Thus the experimentation may take place only on the mathematician's paper. If the theory works

out in a number of situations, it may then serve as a basis for decision in practical operations.

SHARING IN PLANNING

Too often we think of planning as something done off in a corner by some person of superior brains. As we have tried to point out, planning is a normal and daily occurrence. Usually other people are affected. Hence they should be taken into account. The best way is to get them to share appropriately in the planning. Often it is well to explore a problem with a number of the people who are affected or who have a contribution to make. Thus they have a chance to explain their needs, call attention to resources, and mention obstacles. Sharing increases the chances of securing pertinent and original ideas

At a later stage, sharing tentative conclusions provides an opportunity of testing them against different minds. It also creates the basis for effective action later.

Some plans are framed in response to crisis or concern special programs. They may therefore be short-lived. Other plans, once adopted, remain in effect for a long time as guides to action. Naturally they must be brought to date or adjusted from time to time. Long-lasting plans are policies, standards, and procedures.

POLICIES

When policies are stated with clear terminology and suitable explanatory information, they offer great advantages to management . In brief, some of these advantages are:
1. The need for close supervision is minimized.
2. Understanding of the company is greater.
3 Communication among executives is strengthened.
4. Management development is enhanced.
     M Valliant Higginson, *Management Policies* Their Development as Corporate Guides, American Management Association Research Study 76, New York, 1966 page 98.

Policies are agreements on the general principles upon which individual actions will be based. They provide for consistency of action in different situations. If you understand the general policy, you can safely make decisions within that policy or you can tell that the policy needs to be modified. For example, the company may have a general policy of promotion from within, provided there are one or more persons within who fully meet the qualifications for a job. The policy may further provide that within a department, consideration for each vacancy

should be given to all qualified persons in that department. For certain key jobs, consideration may be extended to qualified persons in other departments or outside the company (if clearly better qualified than are those within the company).

Another example of a policy concerns the answering of mail. It is often common to lay down a rule or policy that mail must be answered, or at least acknowledged, within five days or so of receipt. Many other types of policies come to mind.

STANDARDS AND PROCEDURES

A *standard* is a criterion of performance, established as a result of careful investigation and representing the present stage in the development of the art. A standard can be progressively improved as the state of the art develops.

Standards of performance under such and such conditions specify the quantity and quality of the work to be turned out within a certain time by a person, a unit, a machine, or a process. Standards are set for the quality of a product, sometimes with exact specifications, as, for instance, filing of cards in an alphabetical file with an error of 1 per 1000 or 1 per 10,000.

A *procedure* is a series of steps by which an objective is accomplished. A *method* usually deals with the established way of performing a specific step or a series of steps in a process.

Standards, procedures, and methods are dealt with further in the chapters to follow. They should be flexible to provide for variations and changes. They should be reviewed periodically to make adjustments for change and to devise better guides to action.

EXCEPTION PRINCIPLE

An excellent byproduct of setting standards is that any exception stands out like a sore thumb. You can train people to do the things which are necessary in ninety-nine cases out of a hundred. It is that last case which worries you, for it may be an "exception," something out of the common run, where judgment must be applied, not the rule. The idea behind the *exception principle* is that if a case does not fit the rule or the policy, it is taken out of the usual routine and given special handling. Thus if a case does not meet the standard situation, you as supervisor can have it referred to you personally.

If you get a given kind of "exception" often, you can train someone how to do just that or you can get up a procedure to handle it. In an

insurance company, for example, a standard method may be established to cover the issuance of insurance policies up to a certain amount of risk, say Rs. 10,000. All cases exceeding that amount are shunted into another procedure designed for handling larger risks.

The exception principle has many applications. It may be used, for example, to require report from the field of all contracts not on schedule, with reasons.

CONTROL

Control is a process which every supervisor nowadays needs to understand. *Control maintains the balance in activities as they proceed to their goal.* When a procedure is planned, the critical points for control are determined—the points where things may go wrong. These critical points are like the signal points at railroad junctions. The "all clear" signs are up if all is well. But if there is some difficulty, the signals stop the oncoming train.

Control begins by defining the objectives for control purposes. The desired results are stated clearly in physical goods, costs, profits, time, persons trained and available for assignment, or other measurable or observable items. The standards of performance described in earlier and later chapters are reviewed to note specifically the points to be observed if we want to know whether the performance is equal to, better, or worse than the expected.

Similarly, you determine the critical points for the procedure as a whole. You see what should happen and set up means to tell whether it does in fact happen according to plan. To do this, you must know what is to be done, how, where, and by whom, and how you can tell whether performance is in accord with the pattern. You identify these points in time, costs, persons, or other class which can be observed. You then set up a way to check each class with the pattern by observation of the critical points.

To illustrate, the hour of mailing in the late afternoon is a cut-off point for many clerical routines. The proportion of cases which come in the morning which are answered in that evening's mail is an objective measure of accomplishment. If this proportion falls below a certain point, say, 80 per cent trouble is indicated. Where meeting the deadline is of great importance, a three o'clock check of certain routines may be important. Then manpower can be deployed to get things out on schedule.

Control points should be *timely* so that they will promptly spot departures from the expected. Thus action may be stopped before

serious damage is done. Controls should not slow down normal operations. The control points should permit economical observation and reporting. Control, if possible, should be a byproduct of some necessary operation. For instance, sales must be accounted for. At the same time analysis may be made of sales by geographical location, individual sales office, or salesman.

Control is basic to management. A remarkable extension of control is automation, grounded on the simple point of "self-regulation." You have the basis for setting up a "control" when you can determine accurately just what standard of performance should govern and when you have set up a way to determine whether that performance is being reached or not. In an electronic or automatic process, the instrument will record and transmit the fact that the control condition has been reached and will set forces in motion to maintain the system in the predetermined course. The result will be no better, however, than the original planning. The noting of the control condition triggers off a predetermined action.

A thermostatic regulator for an air conditioner is a good illustration of a "self-regulating" mechanism. If you set the thermostatic control in your room at 22 degrees Centigrade, the cooling mechanism in the air conditioner will shut off when the air around that thermometer falls to 22 degrees. When the temperature in the room rises above that point, the mechanism in the thermostat will cause the air conditioner to run again.

Many work procedures are harder to control than a simple engineering system. But the principle is the same. If your standard calls for turning out 300 items a day, you can set up a system to give you warning if you are not meeting your quota. You can then apply various corrective measures to get back on schedule.

Organizing
and
Allocating the Work

The greatest improvements in the productive powers of labour, and the greater part of the skill, dexterity, and judgment with which it is anywhere directed, or applied, seem to have been the effects of the division of labour. . . . This great increase in the quantity of work, which, in conse- quence of the division of labour, the same number of people are capable of performing, is owing to three different circumstances: first to the increase of dexterity in every particular workman; secondly, to the saving of the time which is commonly lost in passing from one species of work to an- other, and lastly, to the invention of a great number of machines which facilitate and abridge labor, and enable one man to do the work of many. . . . It is the great multiplication of the production of all the different arts, in consequence of the division of labour, which occasions, in a well- governed society, that universal opulence which extends itself to the lowest ranks of the people

Adam Smith, *The Wealth of Nations* 1776, Book I. Chapter I

In summary, the social scientists' solution to the problem of work and authority stresses the organization of work around the small face-to-face group; the maximum decentralization of authority and opportunity for participation in decision-making in order to get acceptance and group sanction of work objectives and strong commitment to their accomplishment.

and finally, a supervisor who is employee-centered and who establishes a confident and supportive relationship with his workers

O A Ohmann, "The Leader and the Led", *Personnel,* November-December 1958, page 12

It is useful to draw a distinction between the formal authority of a position which, by itself, is not wholly real, and is perhaps, quasi-fictional, and the authority of leadership or superior knowledge, which may be informal, but is factual. ... The effectiveness of authority depends, in no small measure, on the potentiality of its acceptance by those below. Delegation cannot, therefore, but be influenced by advice or persuasion, formal or informal, from below or sideways

K Khosla, "Delegation of Work and Authority", *Management Bulletin,* October-November 1964, Department of Business Management and Industrial Administration, University of Delhi Delhi, page 19

Organizing and allocating work are key responsibilities of the supervisor. Organization sets the proper form in which action takes place. In chapter 3 we took a look at the organization with its functions and levels. We noted that as an enterprise grows, different activities are defined and grouped into departments and divisions. The broad outlines of work are determined for the supervisor through his place in the organization, within the general framework of his department and division. He is governed by the objectives of the establishment whether it is a manufacturing company, a commercial enterprise, a government agency, a school, a hotel, a hospital, or a library. He finds himself engaged in a specific activity such as advertising, merchandising, market research, economic research, financial statements, accounting, manufacturing, stores, building maintenance or cafeteria management. Everywhere is the need to plan and allocate work, improve it, control and coordinate it, and set standards. Some activities are assigned to him to carry out with and through the group of workers whom he has been appointed to lead.

The supervisor often has considerable latitude in the way the work is performed and how it is allocated to the various workers In other enterprises, the plan of operations may have been carefully laid out and each worker may have detailed duties in accordance with a job classification and rate of pay. If so, the supervisor still has some latitude for making changes or suggesting these to his superiors.

In many organizations, changes are frequent. The supervisor accommodates to the thrust of changing events, of the staff departments, and of his own colleagues and superiors. As a good supervisor he also initiates changes and suggestions when he and his workers find better ways of performing work.

Practically every change in the work, and particularly in the process or system of doing the work, makes changes in people's relationships and in the way things are organized. Some changes produce profound shifts in training, education, even work habits and social behaviour.

The application of scientific method to ways of organizing work has also shown new improvements. The way things are organized should enable members to grow and to fulfill themselves as individuals through the work they do. It should also enable the enterprise to use better processes as these become available. Where people are growing and and expected to grow, the enterprise too is flexible and able to carry out improvements.

SOME PRINCIPLES OF ORGANIZATION

Here is a statement of the principles of organization which conforms to findings in the behavioral sciences :

1. Organization should be geared to attain the objectives of the enterprise and also to promote the growth and development of its members.

2. The organization must be adjustable to changes—in objectives, in the external environment, in the possibilities of improvement in products, methods, and resources and also in the capacities, aspirations, and needs of members of the enterprise.

3. Each function and task should be allocated so that the points of action, consultation, and decision are known.

4. The point of normal decision should be as close as can be to the point of action. By use of the exception principle, matters can then be referred elsewhere-for advice or decision. These matters may be of more than usual importance, cost, specialization, difficulty, rarity, or time span of influence.

5. Functions and tasks should be grouped so that action, consultation, and coordination can take place with a minimum of overlap, delay, or confusion. Those concerned should know where normal matters will be acted upon, and to whom to go for advice or in case of emergency.

6. The occupant of each position should know to whom he reports and who reports to him, and with whom—of higher, equal, or lower rank—he may or should consult.

This point is usually stated : "Each position should report to only one position," or "Each individual should report to one person and only one." This, while generally true, is not necessarily so under some conditions. For example, a general manager may report to a board or commission, and a stenographer may work for several people. The

requirement is that the individual, if he reports to more than one person, should have a method for reconciling conflicts of interest so that he may know what to do and when. Where cooperation is high, there is no problem; where it is low, the problem may be eased if the relationships are clear. A staff man in a division or field office usually has two bosses. One is the head of the unit in which he works; the other is the head of the function he represents, such as personnel or control. He reports "technically" to the top personnel man and "organizationally" to the head of his office. His successful operation depends on his satisfying the requirements of the particular office and at the same time maintaining the personnel policies. He is not unlike a child with two big parents—he needs to please or at least placate both. The personnel man is supported by the system to which he and his two bosses belong and also by his own sense of professional responsibility for good personnel work. He faces real problems which require solutions. He gets little help if his job description says he has one boss when in fact he has two.

7. The duties, responsibilities, and limits of discretion of every position should be made known to the occupant. Especially when the duties are supervisory, they should be set forth in writing.

8. The functions assigned to each unit and the tasks assigned to each position should be reasonably confined to related functions or parts of functions.

This point flows from points 3, 4, and 5 above. It does not mean that the smallest possible division of labour is best.

9. Assigning a responsibility to an individual means that he has the duty of carrying out the necessary actions. He does so within the framework of the relationships, structure, policy, and procedure then obtaining in the situation. Performing or delegating the responsibility requires acceptance by the individual. It also requires recognition and support by those with whom he must deal in fulfilling his task. The delegator usually has much to do with securing this recognition and support. Usually the person accepting the responsibility must try personally to secure and keep these important intangibles in cooperation.

This principle is commonly put thus: "Each assignment of responsibility requires a corresponding delegation of authority." In the usual explanation of organization, authority is regarded as concentrated at the top and as nonexistent below unless specifically delegated. This view has been modified by the thinking of people like Follett and Barnard. They have taught that authority exists within any situation, that authority rests on acceptance—on the consent of the governed. As long as the individual knows what to do within the situation, he does it. When something happens so that he does not know what is appropriate to do,

he needs to know where to go and with whom to consult. If he has been trained to report and not act, he will wait for a signal. When it comes through the expected channel, he usually accepts this signal without question.

Normally, the person accepts an assignment and his colleagues give acceptance also. The person making the assignment holds the assignee responsible for satisfactory performance but he retains his original responsibility for seeing that the task is performed satisfactorily. If performance is good, there is no problem.

Often it makes sense for responsibility to extend beyond a person's authority. The sales executive has a responsibility for getting the accounting department to be salesminded and the credit manager has the responsibility of seeing that bad credit risks are not accepted. Neither has direct authority. Both represent the interest of the enterprise.

10. The lines of organization should be clear, definite, and known. They set the channels of communication for the enterprise. The line to each member of the enterprise should be clear.

11. The number of positions reporting to one executive position should be limited to a feasible "span of control" or span of managerial responsibility.

12. The levels of the enterprise should be kept to a minimum so that the line of communication from the head of the enterprise to the lowest position will be short.

SPECIALIZATION AND SUBDIVISION

When the National Life Insurance Company began business in Montpelier, Vermont, in 1850, one of the principal men in it was Dr. Dewey. He operated on a level of efficiency reached by few companies. He went on horseback to a farm and, acting as an agent, solicited an application. If he was successful, as medical examiner he examined the applicant. Possibly before making out the policy he glanced over the application to be sure he had secured answers to all questions, thus serving as an underwriting clerk or application checker. Perhaps, too, he noted the general condition of the farm and whether the man appeared to be a good financial and moral risk, thus taking the place of the credit inspector. If the examination was satisfactory to him, he approved the case, as medical director of the company. Then, as a policy writer, he made out the policy. He might check it over, thus acting as a modern policy checker. Then as an agent, he delivered it to the insured. Acting as agency cashier, he recorded what he had collected, and moved on to the next prospect. The whole process could

not normally have taken more than one or two hours. In addition, his duties at the home office included passing on the death claims and signing the checks in payment of the claims.

The effective work of Dr. Dewey contrasts with the present organization of an insurance company, where large-scale operation has simplified some things but has tremendously complicated others. The present machinery for selling insurance involves field agents who are directed and stimulated by managers, agency supervisors, and superintendents; medical examiners; clerks who check the application to make sure that all the questions are answered and than sent to the home or regional office; clerks who look up. the previous record of the applicant; highly trained underwriters and, frequently, doctors or other specialists who pass the application; typists who prepare the policy and the card records; mailing clerks who send the policy to the agency; clerks in the agency who examine the policy and deliver it to the agent; and the agent who delivers it to the insured and collects the premium, which is turned in to the agency and forwarded to the home office, where several departments must be notified that the policy is in force.

In the early days of a company it is possible for one employee to do a wide range of things. Then follows a phase where the increasing volume of work makes division of labour profitable. One employee will still do considerably more separate steps than in a later stage, when the volume has again increased. Specialization of function has thus continued on its way until in some large modern corporations one clerk does only one or two things to a piece of paper before passing it on.

A single case and the records about it may pass through a score or more of divisions or sections. For instance, a request for a dividend check in a medium-sized life insurance company may be handled by fifty or more clerks, from the time the mail comes in until the check is mailed and the disbursement is recorded and verified in the books of account.

Specialization has developed with the advance of technology, the role of government, unionization, collective bargaining, and labour tribunals, and the other complicated phenomena of contemporary life. It has come about also with the growth of an individual company to handle intelligently more detailed types of service, the accumulation of special practices, and particular requirements of various sorts. Specialization also takes advantage of more highly educated and better prepared personnel.

The enormous increase of specialization is an outstanding characteristic of modern business. A corporation may have persons with professional education in engineering, law, business management, and medicine; and men with specific training or experience in specialities such

as public relations, advertising, market research, accountancy, control, purchasing, personnel, planning, plant layout, time and motion study, and many others. In positions below the rank of officer, there are dozens of specialists from the man who knows how to repair a machine to a clerk with knowledge of the language or manners of a particular state or country. Specialization has already progressed far, but the chances are that it will increase further in the future. Technology as well as growth require more and more specialists.

ADVANTAGES OF SPECIALIZATION

Special skill is developed when a person concentrates on and masters a line of work or an aspect of it.

His judgment is seasoned by experience.

He builds on experience and assumes responsibility for correct performance.

He develops knowledge of special resources to meet unusual conditions (such as references, acquaintance with other specialists, and the like). He becomes a source of information about the speciality.

Skills and systems of skills are developed which may be passed on to others by training and by technical education

Advantage can be taken of specialized machinery, laboratory and other equipment, reference material, and so forth

The specialist can take advantage of technical education and special training.

Persons can be selected for training and education according to aptitudes needed for the type of work.

A firm requiring a given kind of talent can secure a trained specialist through contacts with a training institution, a professional society, a member of the profession, or through notice in a trade or professional paper.

Technical, vocational, and professional schools are encouraged to develop persons who will have competence in a specialized field, thus creating a supply of needed specialists.

The specialist can earn better pay because of the value of his work; yet the overall cost to the company should be reduced.

The specialist is in a position to devise a better product and advise the enterprise on possible improvements, likely trends, and so forth.

Professional pride encourages the individual to set and maintain high standards for his work.

He is rewarded for outstanding work through recognition by the enterprise and by his peers.

DISADVANTAGES OF SPECIALIZATION

Every increase of specialization makes it harder for one person to have

a comprehensive knowledge and to guide him toward an intelligent
result

Unless special measures are taken, the men who grow up in one function
of a business have only vague ideas of the interrelationships of the enter-
prise as a whole.

There is a decrease in supply of men with breadth of knowledge of the
entire business or of a considerable segment of it.

The specialist overemphasizes the importance of his speciality and
underestimates other phases of the whole. "The specialist knows more
and more about less and less until he knows everything about nothing."

Departmentalization, the broad aspect of specialization and subdivision,
creates barriers to understanding

People lose sight of the overall purpose of what they are trying to do and
how their work affects others

Mistakes of judgment and of detail increase because of the narrow view
and lack of broad comprehension.

Procedures become lengthy and red tape binds both work and worker

Complex orders, major cases, changes, and improvements require much
consultation among various affected specialists and specialized depart-
ments

Compartmentalization may come about through intensified loyalty
to a particular department. A suggestion from outside is viewed as
interference. Rivalries, jealousies, and temperamental incompatibilities
of the department heads may breed interdepartmental conflict

Initiative is dampened

It is harder to detect general ability and to develop people for broader
responsibility

Minor posts increase because of demand for more specialized persons,
more understudies, and more supervisors to direct the work

It is important for the supervisor to recognize the points made above.
In developing himself to be ready for greater responsibility and for
promotion, he usually needs to increase his specialized knowledge,
in other words, to become a better specialist on matters committed
to his charge. At the same time he should avoid putting on blinders.
Instead, he should diligently seek to understand the interrelationships
of his division with other divisions of the company, become a better
cooperator with his fellow supervisors, and enlarge his understanding
of broad objectives and requirements.

SUBDIVISION OF WORK

A more minute view of specialization leads us into the subdivision
of work and the type of organizing and assigning of work which may

be needed in this or that circumstance.

A close understanding of subdivision is particularly required in large institutions where paperwork is great, procedures long and elaborate, and routine well grooved. Such institutions include almost all of government, banks, public utilities, and large industries and commercial enterprises of all types. Small establishments and branch offices of big enterprises often imitate the example of the large ones even though they could operate far more flexibly and provide better service at lower cost.

Subdivision has come about naturally through division of work because of increasing volume. When the work became too great for one individual, it was often split between two persons, each doing half of the steps on all the items rather than all of the steps on half of the items. As a division became too large for supervision by one man, it might be split into two divisions, each responsible for half of the detail rather than for half of the total volume.

In the supervisory discussion groups led by the authors, the supervisors usually see first the advantages of subdivision of work. As the discussion develops the disadvantages become more and more apparent. In some cases the same point was considered an advantage by some men and a disadvantage by others. For instance, some supervisors held that, with subdivision carried far, there would be fewer errors since it would be easier to follow the few rules required, whereas others claimed that there would be more errors on account of the limited picture in the worker's mind. Often there is truth on both sides.

The advantages and disadvantages of subdividing work are listed below. The lists pertaining to specialization include many points which apply to subdivision also.

ADVANTAGES OF SUBDIVISION OF WORK

Specialists and experts are developed in a particular field
Work of a particular kind is centralized.
Responsibility for certain functions is clearly fixed
There is a distinct source for specialized information
Work is routed according to the particular sections which will give it attention.
The work is more accurate, faster, more efficient, with a better rhythm.
Workers can be classified according to skill, the more able and better paid getting only skilled work.
It is easier to measure performance
Ability to do a specialized job can be detected more easily.
Diversity of knowledge, of experience, and of judgment is brought to bear on each case as it goes through many hands.

Operation is simpler from the point of view of the worker
New persons can be more easily trained for a small job
Workers can be easily replaced and transferred
Cost of certain operations can be reduced
Very complex features can be handled by specialists
Work can be carried on by more than one person at the same time
on the same case when records are decentralized
Special records and machines are more accessible
Fraud is made less likely because more difficult.
Uniformity of practice is assured
Cumulative checking is provided, appropriate persons checking or
reviewing what has gone before

DISADVANTAGES OF SUBDIVISION OF WORK

Workers have a limited picture of the job
It is difficult to obtain knowledge even of interconnecting routines
Lack of judgment and understanding result from a narrow picture of
the whole
Errors slip in because of narrow view.
There is too much repetitive checking
It is harder to advance
It is hard to detect general ability
Monotony and boredom become problems
People are apt to fall into a rut
People are "turned into machines."
Absences are harder to deal with
Each division must have its own systems, records, and controls
The number of records multiplies Specialized records are needed for
handling detail
Records on a particular item are spread out
There is duplication of records
Extra records are needed to control the work
There is multiplicity of handling.
Procedures become long and complicated
There is overlapping of work and of responsibility
Unnecessary work is performed because those concerned do not know
the whole operation Often some slight extra work at one work station
may avoid the repetition of a whole series of steps later on
Scheduling is difficult yet interdivisional scheduling becomes of major
importance to secure prompt handling.
Work may be slowed up by delays in transport between work stations
and departments
Controls over flow of work from one division to another are necessary
Two departments may work at crosspurposes
The activities of various specialists must be harmonized

Subdivision lengthens the overall time of operation
Delays arise in answering inquiries.
Peak loads are hard to handle.
More supervision is needed to train and shift workers
There is greater overhead of manpower, machinery, equipment, forms, and supplies.
Responsibility for the complete job is greatly divided.

In conclusion, it is obvious that in large-scale operations some measure of specialization is absolutely imperative. For example, production, investment, accounting, and selling units should be split off for effective control. The problem is not to adopt or reject subdivision, but rather to adopt patterns that have the greatest number of advantages and the fewest disadvantages,

Overspecialization and oversubdivision of work create delays and extra costs, and they also tend to degrade the individual who follows routines which offer little opportunity for the application of intelligence, the growth of understanding, or a sense of significance.

The "assembly line" of the automobile factory is widely regarded as a symbol of the highest efficiency of specialization. Certainly the automobile factory is efficient in accomplishing the work of assembling an automobile and takes full advantage of subdivision. However, the assembly line idea has been widely applied in places where it is of doubtful advantage, especially where the work to be done is not uniform and repetitive. Take routine clerical operations as an example.

The comparison of clerical work to automobile manufacture is frequently suggested by supervisors. Some feel that automobile factories represent the highest degree of specialization. Certainly they are very efficient in accomplishing the work they set out to do and, through the use of the assembly line, they make the maximum use of the advantages of subdivision. But it is not possible for a typical clerical organization to operate in the same manner, for the cases clerks deal with are not identical. Normally, clerical workers must read one or more papers on a case to learn what is required. Then they take minor action. If the work is then passed on to someone else, he too must refer to the papers to learn enough about the case to take his appropriate action. This procedure would be comparable to an automobile factory in which the assembly line was bringing along a Buick, a Fiat, an old Ford, a Chevrolet, two Hindustans, and an old Austin. Each person at the belt would have to examine the machine, then choose the appropriate part from a number of possibilities and put it in its place. So much time would be lost in determining what should be done and there would be so many different possibilities that the advantages of repetition,

rhythm, and standardized action would be largely or totally lost.

It would be fairer, however, to compare some types of office or factory work to the flow of traffic on a highway than to compare it to the assembly line. On the highway one finds fast- and slow-moving vehicles, and the slow delay the fast ones unless there is some way to pass them. The highway requires slow-moving traffic to keep to the left. Fast-moving traffic can pass in the right lane. Routines may often be organized so that the normal or clear cases move quickly and without delay along the fast lane. Difficult, unusual, or complicated cases move along the slow lane specifically provided for them. One such case in the fast lane may slow up all clear cases just as a bullock cart may cause great congestion on a narrow highway.

The best allocation and subdivision of work, both by departments and by individuals, has been a special interest of the authors. Apparently we the senior authors were the first to emphasize the advantages· in productivity and in morale which come from more skills in individual work and from broader scope of work in the same unit.

When we were in the management consulting business in the United States and Canada, we liked to begin a new assignment in a field office of a client company and see the home office first through the eyes of the field staff. Thus our first impressions were close to the customer. Moreover, we got a quick comprehension of the most important transactions, records, and procedures. We found young women handling a large number of different kinds of work in the branch offices of insurance companies. With the record card and a rate book they made calculations which at the home office were considered the highly specialized prerogative of senior clerks. We saw them giving answers in a few minutes to what often took days to work out or compile in the central office.

We happened to visit one small company while a policyholder called and applied for a policy loan. He got his check in half an hour. In the large company where we had an assignment such a transaction normally took two days and went through fifty work stations, each of which performed a small task. The records from half a dozen different files in as many departments had to be consulted, and even more records had to be posted afterwards.

Many questions arose in our minds. Why did the large organization consider difficult and complex a request which in a small office was handled by a clerk in a few minutes? How was it possible that a young clerk fresh from school could master in a few months what another clerk in the big organization did not learn in five years? And finally, was it really necessary with size to have so many records for

the maintenance of one insurance policy? Why was it that the clerical costs of a small company with apparently unpolished methods were much lower than those of a large company with beautiful offices occupy-ing many floors of a fine office building and with well-educated workers? Finally, was it really necessary to have so many records for the main-tenance of one insurance policy?

These and similar questions led us to challenge the advantages of specialization and subdivision which for the most part had been accepted since the days of Adam Smith. You too may be surprised at the degree to which overspecialization and oversubdivision have created problems. It is important that you understand them, for modern work improvement schemes and even automation are making pressures to streamline work and bring different streams together into one integrated system.

UNITIZATION

Subdivision of activities by departments and units is just as important as subdivision of work by persons within a division. As a company grows in size, the activities are allocated to organizational divisions. However, in many organizations with a large amount of work it seems that a given routine may go through many different departments.

In 1932 we developed a plan which met a number of the difficulties described previously. Instead of dividing the work by small functions, we divided it so as to have parallel units, each handling a block of work. One unit, for example, might keep the records and handle all the cases from a given geographical area. In the particular company where we first made the proposal, six different major records would have been brought together. Around each record there were persons with special-ized skills, who also would be brought together. Within several years this plan was adopted and a number of other companies carried out the same plan.

One accounting department with more than 250 persons changed from the serial to the unit plan. There were originally six different divisions each handling different phases of accounting with the branch offices An experiment showed the value of the parallel plan The six old divisions were gradually disbanded as five new units were set up, each responsible for almost all the work for one-fifth of the branches. A small technical division handled special problems for all the units

Comparable costs under the two systems were not available because many changes in branch office reporting were made at the same time However, in two years there was a reduction of ten in the clerical force even though a far larger number of transactions was handled

The effect upon the workers was particularly noticeable. Some typical comments were

"This new arrangement is fine! I have learned more in the six months that I have been on it than I learned in the previous eight years—and I had been luckier than most, too, for I had been on several types of work."

"Hours don't mean a thing to us any more—we can see what work has to be done, and we stay overtime without being asked if there seems to be a lot on hand."

"I don't mind meeting an officer in the elevator nowadays. I can look him in the eye and know that I have given the company a good day's work."

"You see how much trouble your errors cause some other employee who is working near you, so you are more careful than when the trouble came in another department and you did not know the person who had to do the correcting."

We had first visualized the unit system as a way of saving work and money. The results, however, were even more striking in human terms. From that time on, we were convinced that what caught the interest of workers and led to their greater understanding would usually pay off also in savings of money, time, and materials. Since then, numerous instances are on record where productivity and morale have both increased when workers were able to understand what they are doing and why, and when they can take a responsible part in doing it.

FACTORS IN SUBDIVIDING WORK

Within a department or division, there may be two types of subdivision. According to the "serial" type, the work is divided into many small jobs and one worker normally performs very few operations. Often he will do one step of the work on all the cases coming to the department. Under the "parallel" method, the total work is divided into two or more parts and each worker handles several operations on only a part of the cases. For instance, with serial division, nine employees may do some of nine parts of the routine. Under the parallel methods, three employees each handle one-third of the cases.

Reducing the number of steps through which a case must pass will almost certainly reduce the overall time of handling. In addition to the points already made, there is a factor of acquaintance time. Each person who does anything on a case must look it over sufficiently to know what is needed. On a complicated case, quite a bit of time can elapse while one person after another merely familiarizes himself with it.

When you allocate work among people, here are some guiding factors

to bear in mind. One person should do all the steps in a routine which he can perform advantageously, consistent with:

1. His own skill and training.
2. Convenient performance in one place.
3. The need for checking to prevent errors and fraud.
4. The feasible layout.

The skill and training of the worker should be sufficient for the most exacting parts of the task, but not wasted on any considerable proportion of less skilled work. For instance, a computer trained to make complicated calculations should not usually pull material from file since a file clerk is less skilled than a computer. Sometimes there are small matters which can be done with little additional time or attention by a skilled person, when time would be lost by having another person do them. For instance, cases of different types may have to be separated for routing to different desks. A checker can sometimes do this as he completes checking instead of having another person go through the papers for this single purpose.

Going back and forth to consult records or to use a machine is not economical. Often relocating records or machines is better than dispersing the work to several locations. Centralization of records frequently used together may be worthwhile, especially when there is expectation that eventually the records can be combined. If bringing them together would create too much for a group to handle effectively, units handling sections of the several records may be more efficient than separate units for each type of record.

Proper control against fraud sometimes leads to sending work to several departments, to make collusion more difficult. For instance, in some companies, checks must be verified and mailed from a department other than the one which requisitioned them.

Factors of layout are bound up with flow of work. If the latter is forwarded from desk to desk, the first clerk puts his completed work on the front of his desk and the second clerk secures it by turning around sufficiently to reach it when he wants it.

JOB BROADENING

Job broadening or job enlargement has been tried out by a number of companies in recent years. It has been found that the quantity and quality of work go up when employees are allowed to do a broader job than formerly. For example, the machine operators processing bills

were given responsibility to make certain checking operations and to be responsible for the general appearance of the bill. Not only did the result improve, but the machine operators got a renewed interest in their work. In another case, workers handling different types of machines were permitted to exchange work. They shortly assumed responsibility for maintaining an even flow of work and moved freely back and forth among the machines as the needs of the situation required. The results of these and similar experiments in a large company included :

1. More pay for the individuals—they earned a higher job classification through assumption of broader responsibilities.

2. A large increase in work load without additional help.

3. Saving to the company in avoidance of new hirings and other items.

4. Cutting overtime in half.

5. A substantial cut in absences.

6. Far greater interest on the part of the workers, more flexibility and growth.

7. Elimination of needless operations and less wasted time.

In a study reported in 1966 of job enlargement at Texas Instruments Incorporated, the following was reported :

Job enlargement is a means of countering trends toward regimentation, social stratification, technological displacement, and routinized work brought about by mass production methods Industrial engineering has traditionally applied techniques to achieve organizational goals without regard for, and sometimes at the *expense* of, individual goals The manager's interest in job enlargement stems not from altruism, but rather from his observation that people are motivated by meaningful work which leads to the attainment of personal as well as organizational goals.

Job enlargement efforts follow several approaches. Earliest and best known at Texas Instruments is the work simplification process which equips individuals with the knowledge, skills, and attitudes to apply industrial engineering techniques to their own jobs Through work simplification, individuals become the willing agents rather than the defensive targets of change Because mass production operations have gradually limited independent action, a premium is placed on group effectiveness, and job enlargement is pursued through team approaches to problem solving and goal setting.

Jobs may be enlarged horizontally and/or vertically. If an operator's job is expanded so he is now *doing* a greater variety or number of operations. it is enlarged horizontally If the operator is involved in *planning. organizing, and inspection*—as well as the *doing* of his work, his job is enlarged vertically. Evidence from several companies indicates that most forms of job enlarge-

ment—horizontal or vertical, individual or group—result in improved performance or, at least, less job dissatisfaction. Manufacturing processes at TI appear to improve most through vertical enlargement involving groups united by common goals or processes.

One example of successful job enlargement at TI began with 10 assemblers and their supervisor in a conference for solving problems and setting production goals for the manufacture of complex radar equipment. Through their initiative and creativity, assemblers improved manufacturing processes and gradually reduced production time by more than 50% and exceeded labor standards (based on a previously approved method) by 100%.

This process ultimately embraced the entire group of 700 assemblers, and it led to substantial cost reductions in the division, less absenteeism and tardiness, and fewer complaints and personnel problems This successful group process, which granted unprecedented freedom to assemblers in managing their own work (such as rearranging their own assembly lines), also caused supervisors to begin changing their traditional authoritarian self-image to one of coordination and support.

Earl R Gomersall and M Scott Myers ' Breakthrough in On-the-Job Training", *Harvard Business Review*, July-August 1966, page 63

It is quite likely that in addition to the tangible results mentioned, the employees benefited as people through less fatigue, boredom, and frustration. They probably were able to act like better citizens and family members because their workdays were more satisfying. At least, this is the type of finding we see in the literature reporting human relations research.

Boredom is unlikely to occur when one is so engrossed in his work that he has no time to do anything else, or if his entire attention is needed to be alert to a situation. Psychologists studying workers in industry in England in the early 1920's found that most boredom with the job occurred when their work was semiautomatic. It did not require all their attention, but it still would not allow them to talk with other people or to daydream. They also found that in repetitive work if the "cycle of repetition" is too short boredom and fatigue result. Furthermore they found that introducing a few minor changes in the form of the work and adding a variety of tasks lessened both boredom and fatigue.

These findings are important to a supervisor. When he is assigning a task or dividing up the work for a group of workers, he should remember that uniformity and overspecialization may be costly and less productive. In repetitive work of a fatiguing nature, job broadening by changes in the form and combinations of the tasks usually gives the worker more interest and satisfaction with his job than if the tasks are broken down too finely. On the surface the narrow job break-

down may appear more efficient, but actually it may be costly in the long run.

JOB ENGINEERING

Does it make sense to you to broaden the tasks of your workers when for some years past there has been high turnover?

This is a good question. You are dealing with both work and people People under you vary greatly in disposition, aptitude, and many other factors One of your greatest troubles as a supervisor is to be just and yet make allowances for these differences.

Job engineering came to the fore in World War II. The idea then was that jobs could be broken down so that unskilled persons could be trained to do just a few· operations. This worked well in time of emergency. This was "job dilution."

Where there is high turnover, it is wise to make sure that your jobs are simple enough so that they can be easily taught. Suppose, however, that you have competent people who are capable of growth, but you have no higher job vacant? Here is you opportunity for job broadening You can help them expand their skills and give them broader jobs so that they can exercise them. This is especially important for older persons who have been long in the service. Everybody needs the challenge of new activities and problems. A person who has done the same thing for ten years can be old in his thirties; someone accustomed to meeting new situations may be resilient in his seventies. If you are willing to tailor your jobs to fit your people, you will get a response worth your pains.

Job engineering requires study of the entire job and its impact upon the worker Before you can allocate tasks satisfactorily you should· understand each worker's interest and what he needs from his work. This analysis of the job includes social and psychological, as well as technical skill requirements. The use of teams with group responsibility for results should not be overlooked in organizing work. Neither should you ignore the intrinsic value of the work itself to stimulate each worker to do his best

You as supervisor cannot do much about the larger matters of allocation of work to different departments, but you can indeed do a great deal with regard to assignment of work to individuals in a way which increases and does not diminish the use of skills. When you develop people, you are not only benefiting them but the chances are that you are also building yourself as a leader of men. Sometimes, however, you may feel that you are fighting uphill, for as yet there are relatively few

people who understand the difference in morale and productivity when people feel they are growing, not straitjacketed. To be sure, you may train some of your people right out of their jobs. However, unless there is a progressive situation in which they can expand, they might leave anyhow for better opportunities. In any case, you have rewarded yourself with one of the true satisfactions of supervision—the knowledge that you have helped people grow. In the long run it will not hurt the department for people to think of it as a good place in which to grow.

The situation comes to the test when automation sweeps in and wipes out the jobs and skills of people. At these times, the thing which matters is the flexibility of people and their ability to learn. If you keep your employees supple in mind, the chances are that they will make good if they are thrown into some new challenge or that they will not suffer unduly if they are downgraded and have to rise again through courage and will. Such a person might also be you. If you have the imagination and tact to help your people to grow, the chances are you can fend for yourself if you find that your skills have become obsolete. Remember, the human skills never do become obsolete. Neither does the capacity to plan.

Physical Factors

> The first duty of management, in our way of thinking, is a simple one, the importance of which is not always realized. It is to keep the tools in shape. By tools we mean more than the machines themselves—we mean the entire plant and everything pertaining to it.
>
> Henry Ford

The supervisor usually has at least some control over the physical factors which affect the work of his department. Often the situation is far from ideal but making the most of it helps both production and morale.

LAYOUT

Layout for a particular kind of activity is determined by the flow of work and its subdivision, the machines and equipment required, the kind of space available, and a variety of special factors. Usually layout is set by management for the whole establishment. Even though the basic arrangements are ordinarily determined by others, the supervisor may make valuable suggestions on numerous points. He need not be an expert but he should have a general knowledge of efficient space plans. He is usually more familiar with the work requirements than are the persons who assign the space to him.

The order and appearance of the workplace are important to the workers. In fact, they are quite as proud of a good physical plant as are the officers of the company. Taking good care of a workplace helps morale. The age of a building or the fact that location in it is

temporary should not be excuses for shortcomings which can readily be corrected. Often things can be made more comfortable and attractive with a moderate monetary outlay.

The best utilization of space takes special requirements into account. For example, those doing interviewing or meeting the public require more privacy or accessibility or both than do persons on routine work. Much effort has gone in recent years into improved design of office furniture and equipment. "Modular" furniture, for example, has been developed not only to save space but also to promote efficiency, comfort, and appearance. Standardized interchangeable parts are combined into a wide variety of completed units adapted to specific jobs. The units fit into "modules" of space as the standard space areas of a "modular" office are called.

To get the best arrangement from a fixed space, it is well to make "templets," or card models, for each machine, work bench, desk, file cabinet, and other pieces of equipment or furniture. They may be cut easily out of any card board and made to scale, with $\frac{1}{4}$ or $\frac{1}{8}$ inch to the foot. A floor plan is drawn to the same scale and mounted on a drawing board. This plan should show the location of partitions, columns, doors, windows, drinking fountains, tool cribs, storage spaces, walking and materials flow passages, and any special features, such as telephone or electric plugs or switches or machinery, if these need to be taken into consideration. The templets may then be arranged in various positions; when the best arrangement is secured, they may be pinned in place as a model.

Templets may be convenient also in rearranging the space when the flow of work is changed. It is sometimes sufficient to try different arrangements by shifting about on a sheet of paper and later pasting slips bearing the names of the worker's machines, equipment or work areas.

The modern tendency is to have large floor spaces, relatively free of partitions so that equipment can be easily rearranged according to needs of the time. Movable partitions may be helpful in permitting flexibility.

The space per worker in the manufacturing plant is determined by the equipment, the process of manufacture and operation, the product being manufactured, temporary storage space required, and the materials handling equipment used.

For office work, fifty square feet per worker is a figure commonly used in estimating the space required for a department. This provision includes aisle space, files, and special equipment. Seventy-five or one hundred square feet are allowed for supervisors. The actual space

taken by a worker and his desk is often no more than five feet wide by six feet deep, or thirty square feet if a small desk is used. In manufacturing plants, the space required per worker depends upon the process, equipment, temporary storage necessary, product manufactured, and material-handling equipment used.

A general floor plan should be modified in accordance with the needs of the various departments and persons. Sometimes a department is spread out to fill the space, even at the cost of inconvenience and inefficiency. Passing or transporting work may be cumbersome. Hence material may accumulate unnecessarily and slow down the flow of work.

Even more inconvenience is often suffered when quarters are crowded. In an accounting department of a large company, workers had trouble looking up certain slips, filed in cabinets along one side of the room, because the drawers were pulled out into the aisle. The department had been laid out according to the standard plan with aisles adequate for most departments. Shifting the desks near the aisle about one foot from the standard plan added much to comfort.

Supervisors should be where they can see their subordinates and can be available for consultation. Those who direct the work in its details should be seated close to their workers, to be in touch with what occurs. A supervisor sacrifices something important when he is removed from his division. Even the heads of large departments should stay with their force. Consultation rooms, which may be used by several supervisors for private interviews and for committee meetings, usually serve the purpose quite as well as a private office for those whose most important function is to direct work and workers.

It is unfortunate that the private office has become a symbol of rank and importance to many supervisors since it interferes with free communication between the supervisors and the supervised. The barrier is subtle, but it is there, adding feet to the distance to be walked, a partition that obscures a clear view of the department, and a psychological obstruction to frankness and easy contact. Further, the private office usually takes up a disproportionate amount of space and light and makes lighting and ventilating the adjacent portions of the office difficult. It also complicates rearrangement of space. For all these reasons, it should be restricted to those who need privacy for frequent confidential consultations or for thinking of a detached nature.

If a symbol of rank is needed for those who are rising on the supervisory ladder, let it be a fine desk, a handsome pen stand or lamp, a rug, a picture on the wall, car parking space, or some other mark of prestige. In some companies having the desk either facing the others or turned at an angle indicates supervisory rank.

LIGHTING

The selection and proper installation of artificial lighting are complicated matters upon which expert advice should be obtained. Even experts are likely to differ among themselves. The standards of lighting have changed greatly in the last few decades. The color of the ceiling, walls, and furnishings has a bearing upon the proper lighting scheme.

Glare is a factor of considerable importance. It is "any brightness within the field of vision of such a character as to cause annoyance, discomfort, interference with vision, or eye fatigue."

Reflected glare comes to the eyes as glint reflection of the light source in some polished surface. It is often more objectionable than direct glare. It is generally from a direction below the horizontal, a zone in which the eye has no natural protection. This form of glare occurs when a person looks at glossy paper, polished metal or wood, or other shiny surfaces. The eye is often subject to it for long enough periods of time to produce serious eye fatigue. Many of the sources of reflected glare may be controlled by the supervisor. In addition, he can see that the lighting units are kept reasonably clean, because a comparatively thin layer of dust will cut down appreciably the light given by a fixture.

Considerable attention should be paid to the way daylight comes to the workers. Usually the source of daylight should be from the left. Front light is particularly bad since it is likely to cause a glare, except when the workers are rather far back from the window. The distance away from a window should vary according to exposure, size of aperture, and so forth. Windows through which the sun comes, either directly or by reflection, need to be specially considered in laying out the department.

COLOR

Intelligent use of color in the office and the plant can enliven an otherwise drab workplace and create a cheery atmosphere. Some colors also cut down glare and hence increase efficiency. Color codes used in plumbing and electrical wiring also minimize maintenance problems.

NOISE

Noise appears to decrease the efficiency of the average worker. The worker may become unconscious of the noise, but he does not seem

to get entirely away from the effects. These, however, are rather difficult to measure. A large life insurance company studied the output of clerks when working in rooms with sound-absorbing ceilings. It found that errors were reduced when the sound-absorbing material was installed and that they increased when it was covered up after a year's trial. The volume of production, as well as its quality, seems to be improved by reducing noises.

It seems reasonable to expect that a material reduction of noise in a workplace will result in at least a slight increase in the quantity and quality of work per person, in better health with fewer absences, in more cooperation among the employees, due to less nervousness caused by noise, and in easier telephone conversations and interviews with others.

Noise is caused by wavelike motions in the air hitting upon the ear drums The waves start at the source of the noise and spread out in all directions, somewhat like the spreading of the little waves caused by throwing a stone into a quiet pool of water. If they hit soft surfaces, such as felt or woolen clothing, most of their volume will be absorbed and little sound will be reflected. A complex noise, comprised of a combination of high and low pitches, is likely to be more disturbing than a "pure" noise of only one pitch.

A steady noise is generally easier to get used to and is less interfering to work than intermittent noises, especially when they come at irregular and unexpected intervals. For instance, the hum of an electric motor is likely to be far less disturbing than the occasional slamming of a door.

Many office noises are partially controllable by the supervisor. He can consider the noise made by the different machines and may segregate the machines or place them in the best manner in relation to reflecting surfaces. He can see that banging doors are adjusted, and that other noises, arising from improper adjustments or use, are corrected. Rubber or felt pads under machines absorb the noise. A quieting device to put over the telephone mouthpiece may be of value.

Various sound-absorbing or soundproofing materials may be put on ceilings partitions or walls. The expense of installation is often considerable but may be a good investment. Soundproofing is most effective over or under the source of noise.

MUSIC

Just as noise interferes with work rhythm and distracts the worker, soft music played in the background may soothe nerves and increase

production. Where music is piped in or made available to workers ·
production departments and other units with machines, studies sh«
a reduction in workers feeling fatigued. They say that the music ak⁻
their work more enjoyable and is helpful in keeping up the swing of it
Observations of workers by one of the authors in offices where musᵢ
is played over a loud speaker show that they tend to be more .
than those where music is not available. In some banks music is play
even where it may be heard by customers. There has usually been
favorable response by workers wherever music has been intrc ⅰ ⅃·
in.work situations. This is not true, though, in work where concentratio
is required. There, distractions should be kept to a minimum. Tⁱ
extent to which people find music a distraction, however, varies wiⁱ
their physical, emotional, and mental makeup.

Current research on the fatigue problem reveals that music helps
to overcome monotony. Music adds interest to work which peopl
find boring, and is soothing to those who get easily irritated. However.
the kind of music played must be selected carefully so as not to ups·
the work rhythm. For instance, music with a steady beat was found to
help comptometer operators' accuracy. When pieces were varied and
rhythm changed, the opposite effect occurred.

AIR CONDITIONING

The maintenance of comfortable air conditions has a bearing on
both the production and the morale of employees. When weather
conditions are cold, heating and ventilating are problems. _ When
weather is hot, the desire is for coolness and air motion. Many build-
ings are now air conditioned—a fact which may or may not solve either
the physical or morale problems involved. Whether there is air condition-
ing or not, the supervisor has some control over conditions in his space.
If there is air conditioning, he must not allow windows to be opened
against the rules.

It is helpful to realize some of the complex physiological, social, and
mechanical problems involved in air conditions. The human body is
remarkably adjustable and short of extreme conditions maintains its
warmth at about 37 centigrade degrees under many different outer cir-
cumstances.

Normally the object of office heating is not to warm the body but to ·
keep it from cooling off too rapidly. The body becomes uncomfortable
if the air approaches or exceeds body temperature. Air supplies oxygen
to the lungs, relieves them of carbon dioxide, removes the excess of body
heat, and permits the loss of some moisture and waste products through

the skin. The body becomes uncomfortable at cold temperatures and life itself may be endangered when long exposed to temperatures below freezing. In the temperate zone, 20 degrees centigrade with about 40 per cent humidity is considered ideal. In tropical or subtropical areas, a warmer temperature is still quite comfortable.

Temperature is only one aspect of air conditions. Humidity, or the amount of moisture in the air, is important, too. Air with a good deal of humidity at a medium temperature usually feels as warm as a higher temperature with less humidity. Air becomes dry rapidly when the temperature rises because the moisture evaporates more freely with each increase of warmth.

Air motion is another significant factor since it whirls away both heat and moisture from the body. In cold weather heat is dispelled rapidly by moving air. In hot weather, on the other hand, air below 100 per cent humidity and below body temperature removes moisture from the skin and thereby makes the individual more comfortable.

A scale of equivalent warmth has been worked out for different combinations of temperature, humidity, and air motion. Even though one may be just as comfortable at 26 degrees with little humidity and a fair amount of air moving as one is with lower temperature, higher humidity, and the same air motion, the effect on the body is by no means the same. At higher temperatures, the body perspires, and the cooling effect of evaporation makes any current of air feel like a draft. Moreover, the body has to do more work to get rid of its excess heat. The blood is sent to the surface of the body to cool off, sometimes depriving the internal organs of the supply of blood they need for efficient functioning.

The presence of air conditioning does not solve all problems. It seems that the supervisor is never entirely relieved of concern over air conditions. Often the air is not distributed equably. Some parts of the building tend to be cold, others hot. Some people sit in stagnant air pockets while others may suffer from too much air, too cold. The first trouble may be eased by a fan, the second by baffles to deflect the cold air away from the sufferer.

Sudden changes in outdoor temperature cause trouble within. When it is extremely hot, people suffer with cold if the indoor temperature is a great deal colder than outside.

Unfortunately air conditioning does not change people's desires. Some like a room cool, others like it hot. It is best to follow a medium course.

Many of the women are comparatively thinly clad and some feel cool even when some of the men think the place is too hot. Whether the women dress coolly because the place is hot or whether it is hot because

they are coolly clad is a question. Probably the women have . . . ᵢ themselves to their environment better than the men have. It is wᵢ to put men near the windows if possible.

The availability of individual air conditioning units has raised f problems in nonairconditioned buildings. Such units are commonᵢ installed on a prestige basis—that is, the higher-ups get them, and c· ᵢ times their secretaries and peons do too. Thus people who do nc have this amenity may resent the real or apparent discrimination as · ı as minding the heat.

Planning Work
Improvement

The periodic taking of a physical inventory is a commonplace of management At intervals we count every screw, nut, and bolt, suspending production if need be, in order that we may know what our assets are, and many are the discrepancies which we uncover by this process. We need to do precisely the same thing with our intangibles It is equally imperative that we take periodic inventories of our ideas and beliefs. .

> Clarence B Randall, *Freedom's Faith, A Creed for Free Enterprise,* Little Brown and Company, 1953, page 4

Thus, when we try to discover what the worker wants we find ourselves separated from him by two barriers—the barrier of authority, and the barrier of conventional attitudes If we ask him directly what he wants he is liable to do two things—either (1) fold his hands and say "what you will," or (2) get his union leader to mount a demonstration and from there, protected by numbers, ask for the unobtainable In both cases you get an answer; but in neither case is it a true one

> J P S Mackenzie, "The Changing Philosophy of Personnel Management and Industrial Relations", *Management Bulletin* January-March 1966 Department of Business Management and Industrial Administration University of Delhi, Delhi, page 36.

Let us think for a moment of typical kinds of need satisfaction which we provide for people in the work situation First of all, wages You can't spend your wages on the job, you have to go somewhere else before they can provide you with any satisfaction. And the same thing holds for vaca-

tions, insurance benefits, pension plans, and recreational programs. .
Virtually everything we use in trying to get people to work for us, in ii
fluencing their behaviour, is something they can use for need satisfacti‹
only when they get away from the job and into some other situation

·What is the result? Simply that work is viewed as a kind of punishm.
that people must undergo in order to get satisfaction elsewhere.

Douglas McGregor. *Line Management's Responsibility for Human Relations.* Ameri‹
Management Association Manufacturing Series No 213, 1953, page 33

To create the situation where work is itself genuinely satisfying, quite ap
from the delayed rewards it provides, requires...the development u
·genuine consultative supervision at every level of the organization ...

Genuine participation, to the point of deep emotional involvement of a
members of the organization, is about the only source of satisfaction in th
industrial setting for a considerable number of powerful human needs
Among these are needs for achievement, knowledge, prestige, creati.
activity, group approval, and power.

To make work itself genuinely satisfying may require also a considc‹ '
modification of the engineer's conception of efficiency. I could ci‹
some dramatic situations where greater productivity at lower cost has beei.
the result of a compromise with technical efficiency because the technicall;
efficient method removed too much human satisfaction from work

Douglas McGregor, "A Theory of Organized Effort", in *Psychology of Labor-Manage-
ment Relations,* edited by Arthur Kornhauser, Industrial Relations Research Association,
1949, pages 118-120

THE QUESTIONING METHOD

The need for improvement arises from the changes taking place in-
side and outside the organization. Take, for example, the introduction
of new products and services, the opening of branches in new locations,
adjustments in operation or control, and adoption of new ideas of all
kinds. The search for better results at a cheaper price is practically
continuous. Within recent years, too, there has been recognition that
in a democratic country people's satisfactions in their places of work are
important too. Hence many improvements consist of ways to increase
the standard of living of workers, give them more benefits, make their
workplaces safe and attractive, and provide them with opportunities
for greater work satisfaction and personal growth.

You, too, as a supervisor, are engaged in the continual quest for
better ways of discharging your responsibilities. You·know that to keep
up with progress you should be getting ever better results.

Basic to work improvement is the *questioning method* of the scientist
and engineer. You can follow this method, too. Even though you are
convinced that your present practice is good you should frequently chal-

lenge what you are doing. Kipling's "servingmen," mentioned in Chapter 14, are your constant companions—What, Why, How, When, Where, and Who.

A new idea may seem so simple that one feels, foolish not to have thought of it before, but the best ideas are usually simple ones. A certain large company requires its supervisors to justify the continuance of any given routine after three years. They do not regard seeing something better as a reflection upon the past, but they regard with suspicion a failure to make an improvement in three years.

One Saturday night the head of a department was reading a borrowed copy of a report on a similar department in another company By Monday morning at nine-thirty he had put into operation an idea from that report, namely, to have a clear track for clear cases He arranged that a clear case would go immediately from desk to desk, whereas cases which were complicated or required special handling would be thrown aside in order to speed up the completion of simple cases. He said he wondered why the idea had not occurred to him or to his assistants.

WORK IMPROVEMENT

There are various means for systematically improving work. Among the common kinds are : the organization survey ; the analysis of methods and procedures ; and the job analysis. The supervisor can do some of these himself. Others require a broader view of operations.

The organization survey is conducted by the planning department, if there is one, by someone working out of the office of the general manager or by an outside management consultant. The purpose is to improve the organization through rearrangement of functions among the departments and divisions.

The analysis of methods and procedures requires a study of the work flow which may be made by each department on its own or by the planning department or both. You should learn to study the flow of work, either by yourself or working with the planning department.

The steps necessary to improve an established routine are like the outline of general planning given earlier and may be stated thus :

1. Determine what is necessary. Normally this should be based upon a detailed study of what is done now, where it is done, by whom, and why. The "flow of work" is determined and analyzed.

2. Consider the best division of the work among the various groups and individuals available to handle it.

3. Devise a good layout or arrangement of the work stations, machines, and equipment.

4. Set standards of quantity of output for the group or for individuals.

5. Set standards of quality and arrange inspection points to be sure they are obtained.

6. Schedule the work through the different steps.

7. Set up records or reports which will enable those in charge of the work to see that it is going according to plan, or that difficulties are beginning to develop. Such records are often called "controls." ·

The importance of systematic work improvement will be understood if you consider the way a good plan gets modified in use. Small changes slip in, many of which may be improvements, but their cumulative effect may be a lack of balance unless the new adjustments fit in harmoniously with the basic plan. A change made to handle an exceptional case may persist even though a similar case may never recur. Sometimes improvements are made in one part of the system, and later similar steps are inserted elsewhere, producing duplication.

Sometimes a task is performed for a temporary reason, but persists because no one thinks to stop it. Often reports, once set up for a purpose, are no longer used.

An officer who had been at the front was put on guard duty at army headquarters in London. One of his duties was to inspect sentries He came to a sentry beside a door to a large room and asked him what his duties were. "Oh, I walk up and down, and up and down, and salute all officers."

- "Yes," replied the officer, "but what are you here for?"

·The soldier did not know. The officer asked the corporal of the guard, "What is this man here for?" He had no idea The officer went to the guard room and asked again, no one knew. "How long has he been there?"

"Four years." was the answer.

"What is he supposed to do?"

"Don't know."

Finally the officer looked up the back records to find out the original purpose of stationing the sentry.

The room had been freshly painted four years before, and the sentry was posted to see that no one was allowed in until the paint dried

In another instance, two sections of a certain government department were in different buildings and valuable documents were sent from one to the other by registered mail. Later these sections were put on the same floor of the new building, but no one thought to deliver the documents by hand instead of by registered mail.

Frequently, workers put in new steps for checking or control because they are asked for information which they cannot supply. One operator was found keeping a record of all his work simply to answer an occa-

sional inquiry from others as to whether certain work had left the department. Yet a record for this specific purpose was kept by another worker near him.

Repeated checking or inspection may reach unsuspected proportions. Frequently, work which has been checked once or twice in one department passes to two other departments, each of which again rechecks the item.

A good worker may deviate from the standard method by making an improvement. This should be brought to the attention of the supervisor so that it may be passed on to others doing similar work. Sometimes, however, the operator is unaware of the improvement. For instance, one girl was posting cards much faster than the others in the same section. Her supervisor noticed that this was because of her manner of handling the cards, and he passed on the method to the other girls.

The various reasons just outlined for deviations from a basic plan show that a periodic analysis of a department's activities is desirable. Even when the investigator is definitely aware of weak spots, he should start the analysis near the origin of the work. Here most supervisors are handicapped by departmentalization. They get work from one department, do certain steps on it, and send it or the results on to another department. Frequently, they have only a sketchy idea of what is done to the papers before or after they get them. The desirability of studying routines as a whole, regardless of departmental lines, is one of the resons why planning departments have arisen. The planning men know, or can easily find out about, the preceding steps; supervisors may hesitate to ask about the exact details for fear of being thought to meddle in affairs of others.

How far the supervisor can go toward learning the details of the work outside his department is a matter which will be determined largely by the spirit that prevails in the company, by its size, and by the personal relations of the particular supervisors involved. Generally the supervisor can get an outline of the important steps taken in other departments; this is often quite enough, and sometimes more than is necessary, for him to proceed with the analysis of his own work. He may find that his routine could be materially simplified if another department changed its methods or requirements a little. He can then raise the question of the practicability of the change, first dealing informally with the supervisors concerned if he is on terms which make such dealings appropriate If there is a planning department, he can report to it that, if the changes could be put into effect, he could save such and such work.

Management consultants often are able to make suggestions for improving methods because of their detached point of view which enables

them to see clearly things that those who are close to the work have not noticed. If a supervisor can get away from his department for a few weeks, he may find that he comes back with a fresher view and that he can see places where changes are desirable. He should be especially alert upon returning from his vacation. If he is too busy to make any changes immediately, he should at least record what seems to him to need attention.

The assistant head of a department was called upon to do some temporary work for several weeks in another department When he went back to his old department, he saw with fresh eyes He was struck on the first day with the poor layout of the desks. The department's work had expanded rather rapidly about seven years previously; the desks had been moved close together and finally the duplicating machine used in the routine had been put in a nearby cloakroom. Then, after reaching a peak, business had fallen off for three years, a number of the desks had been moved out and the remaining ones moved apart. The moving had gone so far that the clerks were wasting much time going from desk to desk. He had the desks put closer together so that papers could be passed from one to another, the duplicating machine was brought back, and work went much more smoothly. The little break of going to another department for a time made obvious to the supervisor what he had been ignoring for many months.

ANALYZING THE FLOW OF WORK

In most departments there will be one or two major types of work and often several minor ones. The regular or customary course of handling each of these becomes a routine. The minor routines usually cluster around the major ones. Therefore the analysis of a department should begin with the routine which bulks largest. Its revision will frequently affect the minor routines.

One should first determine the object or end result of the routine; for example, a properly prepared invoice, a correctly drawn check, or certain statistics for a definite purpose. Many steps will normally be followed to get these end results. Upon analysis, some of the steps undertaken to facilitate the work will be found to require more time in one place than they save in another.

The analysis should be started by a brief sketch, in words, by diagram, or both, of the essential points of the routine. Generally, a supervisor will start following actual cases when they arrive in his department. Sample cases are usually less satisfactory than real cases since clerks are less careful to see to the correctness of all the details, and the details are often of great importance. Duplicates of real cases sometimes make

convenient examples to study. Sample copies of all papers and records should be prepared.

In making an analysis, follow the cases through from operation to operation along the route they would normally take. Each individual handling the case should be talked to separately, and nothing, however small, should be taken for granted. See exactly what is done. Stand at the workplace or walk around with him to the tools, and so forth. He is more likely to feel at ease; you see more and learn more than if you ask him to come to your office to talk. Find out what departures are made for special cases, but concentrate on the handling of routine cases, particularly those you are following.

Ask each worker, during your talk with him, from whom and how he gets the work, exactly what he does with it, and how and to whom he passes it on. The answers of the different workers should agree in regard to the movement of the work, but it is not unusual for a step to be forgotten. Sometimes, workers are not sure to whom the messenger takes the work, or they may tell incorrectly what happens at another workplace. It is well to see it happen yourself.

It is especially important to allay nervousness on the part of the workers. Let them know what you are doing. Either tell them in advance, as a group, or explain to each as you come to him. Stress the point that you are following the flow of the work to make it better and easier for all and that you are not trying to study individual performance. You cannot fail to get some impression of individuals as you gather your data, but do not attempt to combine the task of sizing up workers with that of scrutinizing the work.

Concentrate on the flow of work, but do not be in a hurry. People generally make their explanations best when the investigator is both sympathetic and somewhat impersonal. Make relevant comments in order to give the workers a chance to talk; you may receive some interesting sidelights. Do not criticize, however, while you are getting the facts. First, the criticism may clearly be unjustified when the whole picture is seen and second, the worker will not feel at ease if he is being criticized or if he has to justify everything he does. Besides, your purpose should be improvement, not criticism of past methods. One needs first to know the facts and then to work out a solution of any difficulties discovered.

It is sometimes appropriate to lead the workers to make comments and explanations. "Why is this done at this point?" or "Why is this done now rather than later?" and other pertinent questions sometimes will bring out interesting points about systems or about human attitudes.

An investigator asked a clerk why she wrote out the names of each of three men in her follow-up notebook when frequently ditto marks could suffice She answered that ditto marks would be more satisfactory. "Have you ever asked Mr Thomas if he had any objection?"

"No, and I am not going to, either."

This casual phrase indicated that something was amiss in the quality of the supervision.

Here is another instance of a worker's attitude to the work and to the supervisor :

A worker was checking one class of parts twice as much as another class. An investigator asked why the parts were not all treated alike. "That is what I have wanted to know for three years," he replied. "When I started on this job I asked Mr Pal why the same amount of checking would not be satisfactory, and he told me to do it as I had been doing and not ask questions. He has left the company now, but it is still done the same way "

The investigator then asked if he had taken up the point with his new supervisor. "No, indeed, I don't want to get jumped on again: I'd rather do some unnecessary work."

The investigator took it up with the supervisor, who stopped the silly performance from that time on. He could not, however, understand the reticence of the worker in not raising the point with him. Thus are the sins of one supervisor visited on the successors. The worker was intelligent, and would probably have had a number of other worthwhile suggestions to make if he had been listened to sympathetically in the first place.

If the worker tells you something confidential, do not even let a stroke of the pen suggest that you are writing it down. It is important not to close people off by having them think you are recording anything personal in a way that might be used against them. Personal information should be used only in a most guarded way, but it is extremely valuable for insight into supervision and method. To refresh the train of thoughts when you reread you notes, write down a few words or symbols when the conversation returns to the commonplace.

Use a notebook freely to record exactly what happens in the routine. Without knowledge of stenography it is difficult to take notes fast enough. However, you can merely jot down parts of sentences, using your own standard abbreviations for words frequently use. A system like "Speedwriting" is very convenient.

Concentrate upon getting the facts accurately. Do not try to think up improvements at this stage. However, if a possible improvement occurs to you while you are investigating, jot down enough so that you will re-

call later what it was. As the same idea may never occur to you again, it is important to write down these fleeting glimpses as soon as they come into your mind.

After you have talked with the workers for a time and have followed the work through a number of steps, it is well to go over your notes to be sure that you understand exactly what is done. You will probably find gaps and points that are not clear. If the routine is to be considerably changed, it may be a waste of time to consider exactly how certain details are now done. Make a note of the points you wish to clear up and of questions you want to ask. Consider further the ideas for improvement which have occurred to you and write them out more fully. You will probably get new ideas as you go over your notes. Put them on paper. Even if you are already highly familiar with the routine, the systematic approach will show up points you will want to change.

Small slips of paper, about $2\frac{1}{2}$ by 3 inches, are very convenient for writing out questions and points to be cleared up and even suggestions for change. The slips can be sorted according to the person who is to be questioned. The slips with suggestions can be arranged in the order in which they will be handled in a report, or they may be grouped according to when you want to take action.

Sometimes it is advisable to write a description of the routine after you have seen it and taken notes. Your notes may need to be rearranged.

It is usually best to arrange the notes by "steps," or small parts of the total work process. Sometimes a number can be assigned to each work station in a routine, and the steps at each work station given.

A chart of the steps is a help in clearly visualizing the routine, especially if the analysis is to be presented to others. Various types of charts are useful. You will find a number illustrated in the textbook by Leffingwell and Robinson cited in the bibliography. A flow chart is often prepared with four symbols commonly used for operation, transportation, storage, and inspection.

Usually people are surprised to know the number of persons and steps involved in an apparently simple routine. The authors have frequently encountered routines which passed through the hands of forty or fifty people in half a dozen departments.

CONSIDERATION OF CHANGES

The mere visualization of all the handling immediately induces a desire to simplify the routine and to cut down the number of work

stations and of steps. It also brings out clearly the subdivision of the work ; for instance, sometimes work which could quite well be performed by one person has been divided between two or more people, thus slowing down progress, as illustrated in an earlier chapter. Frequently, a chart shows the same part coming back to a worker several times, and thus raises the question of why the backtracking is necessary. After charting, some steps usually appear useless at once; others look clumsy or baffle one how to do away with them.

The worst faults in the present system should be jotted down, along with any definite or suggestive views on how the routine could be handled otherwise. Many times solutions to difficulties may lie along several different and conflicting paths. When this is so, it is helpful to list the advantages and disadvantages arising from each. If no solution is clear, the problem preferably should be dropped for a while and allowed to simmer in the consciousness. As pointed out in an earlier chapter, "incubation" and "illumination" are two valuable parts of the thinking process.

If an entirely new system is to be devised, a step-by-step analysis of the old need not be made, although it may be worthwhile to chart it if others must be convinced of the need for a new system. If the old system in the main is to be continued, a step analysis is important. The next two sections of this chapter provide useful guides for the supervisor in arriving at the revised or new systems.

When the step analysis is finished, the train of thought laid out tentatively will very likely have reached some conclusions. Alternative solutions must now be weighed, and a decision reached. Possibly a new machine must be considered, and the saving afforded matched against the initial expense. The positions open for those whose labour might be saved will need to be considered to determine whether the possible saving will probably be actually realized.

Problems of personality adjustment are exceedingly important in their effect on planning of the work. Sometimes an improvement must be held up until the proper adjustments are made. Since the spirit of cooperation and teamwork is so important, it may be better to forego an improvement than to make it at a time or in a manner which would hurt morale.

When the weak points of the present routine and the basic changes have been determined, the proposed routine should be outlined with at least as much detail as the description of the present routine. Starting with the general aspects first, the details should be worked out according to requirements of proper subdivision, layout, quality, scheduling, and control. The flow of work should be planned so that there will not

be delays at one or two congested points. The position of checking steps should be carefully set and needless checking avoided.

Before the details of the major routine are determined, it may be desirable or essential to consider the less important routines in the department in order that one improvement will not cause difficulty else-where.

The new routine should be checked back to the old one point by point to be sure that nothing significant has been omitted. If a chart of the old routine has been prepared, the new routine should be charted in approximately the same detail. When persons read descriptions of a proposed routine, their attention is arrested by novel ways of doing things, and the new routine, even though essentially simpler, may look much longer and more complicated than the old familiar one. If the charts are on a comparable basis, the shortening of the steps will be considered fair if a careful comparison is made.

When the decision as to the new routine rests with others, the report should be drafted to meet the mental habits of those who are to con-sider it, as discussed in a previous chapter. The importance of suiting the presentation to the individuals can hardly be exaggerated. An excellent plan is not sufficient; it must appeal to those who are charged with its execution.

An investigator was asked to revise the work of a department where the head, Mr. Ramanathan. was doing highly technical work of great importance to the company. He had a capable assistant. Mr. Bose, but whenever the junior showed initiative, Mr. Ramanathan would intervene and handicap him When mistakes occurred, Ramanathan would call in the worker responsible, and say, "Be sure not to let this happen again." The result was that there were many controls and extra records

The investigator gathered the exact data of the flow of work and saw that service was being delayed by the methods in use He charted what was being done and took it to Ramanathan. who was shocked at the picture pre-sented "You need not feel apologetic. Mr. Ramanathan." said the investigator, "for you are doing excellently the technical function with which you are charged Mistakes in judgment on these important matters could cost the company several lakhs of rupees. whereas the saving of the entire clerical force in your office would save only about forty thousand What this picture shows me is that you have too many things on your mind You should be freed for the really important work. and you should delegate to Mr Bose the less important task of organizing the department efficiently and of giving quick service to the company "

The management concurred in the views of the investigator and gave a new title to Ramanathan. making Bose department head in charge of the details of running the nontechnical work of the department One-sixth of

the clerks were removed from the department. and the remainder did an increased volume of work in a quicker and more satisfactory way.

If the investigator had not studied the right appeal to make to Mr. Ramanathan. no progress could have been made except by the direct pressure of the management. which probably would have caused a feeling of failure in a key man.

Once the new routine is installed, controls should be set up to measure the improvement over the old methods. Delays and points of difficulty should be further studied, with a view to improvement.

GUIDES IN WORK SIMPLIFICATION

Work simplification has saved enormous amounts of time and energy in factories, warehouses, offices, farms, homes, and other places where work is done. During World War II the principles of work simplification were taught to adults in many ways, chiefly through Training Within Industry and through the Extension Service of the United States Department of Agriculture. It is said that in a typical American farmhouse a farmer's wife in her lifetime could save herself a sufficient number of steps to walk 6,000 miles.

The principles of work simplification may be stated in many different ways. They are summarized below.

DEVELOP A QUESTIONING ATTITUDE TOWARD ALL WORK. We have already stressed this point and specific questions are given later in this chapter.

SAVE STEPS. Wasted steps are useless effort. Planning tasks prevent back-tracking, going empty-handed, and other lost motion. Saving steps is part of a motion-saving attitude. Anyone who wishes to save human energy must have this attitude as part of his thought process.

ADJUST WORK SURFACES. A table, desk, or other working surface can easily be made the right height, either by raising or lowering the desk or raising or lowering the place where the worker stands or the chair where he sits. A slight stoop or working with hands in a strained position saps human energy. Special care is needed in adjusting the working level for persons who wear eyeglasses. Sometimes a surface an inch too high or too low for the particular person causes much eye fatigue.

ARRANGE TOOLS AND MATERIALS WITHIN EASY REACH. The maximum convenient working area for the hands may be noted by drawing a line when each arm is swung from the shoulder in a semicircle over the working space. The easy working area is described by similar lines drawn when the arm is swung from just above the elbow.

USE THE PRINCIPLES OF EASY MOTION. The rules of human motion were set forth many years ago by Frank and Lillian Gilbreth and have been extensively used in industry, offices and hospitals, in the home, and on the farm.

1 Use both hands One hand is often used when two would do the job almost twice as fast and nearly as easily. On many jobs, a one-handed worker is only half a worker. Moreover, accidents are reduced when both hands are busy
2 The shorter the distance the hands travel, the quicker and easier the movements
3 Both hands should work and rest at the same time
4 Both hands should start a movement at once and end it at the same time
5 Hand movements are easier if timed in a natural rhythm
6 When the right hand moves one way, the left should move in the opposite direction at about the same speed.
7 When one hand is going up the other should be coming down
8 Slightly circular motions are easier and faster than straight-line motions
9. Sequence of motions should be arranged to build rhythm and auto-maticity into the operation.
10 Tools and materials should be in the normal working area They should be prepositioned as much as possible to reduce the operation needed to search, find, and select
11 The paths of fast motion should be taught and learned
12. Hands should be relieved of all work that can be done conveniently by feet or other parts of the body

Because of climate and custom many people in India and other warm countries wear either no shoes or easily removable sandals. Hence the feet and toes are used for grasping and other motions far more than in the United States. This is a real advantage and the feet and toes also should therefore be utilized for ease and efficiency in work.

A CHECK LIST FOR ANALYSIS OF PROCEDURE

The following questions were devised to apply to the different steps of a procedure, to a major section of a procedure, or to a single operation or step. In your analysis you should ask, "What is the purpose of this operation? Is the result necessary? Worthwhile? Why? After you have given the reason, ask why it is important; if it appears sound, then ask if another way would be more effective. A genuinely critical attitude is very important, and the habit of asking yourself *why* should

be cultivated. Obviously it is not necessary to ask all of the questions about each step. Often you dispose of the step in the first two or three questions.

Remember that many steps are taken to facilitate other steps. Each such step should be observed to see whether it really does accomplish the purpose or whether it could be done in a better or easier way.

A. PURPOSE OF THE PROCEDURE AND OPERATION

1. What is the purpose of this operation?
2. Is the result necessary? Worthwhile?
3. If so. why?
4. Can the purpose be accomplished better in another way?

B. THIS OPERATION'S RELATION TO OTHER OPERATIONS

1. Can this operation be eliminated?
2. Can it be combined with another operation?
3. Can it be subdivided and the various parts added to other operations?
4. Can part of the operation be performed more effectively as a separate operation?
5. Can the operation be performed during the idle period of another operation?
6. Is the sequence of operations the best possible?
7. Would changing the sequence affect this operation in any way?
8. Should this operation be done in another department to save cost and handling?
9. Should a more complete study of operations be made by means of an operation process chart?

C. SOME QUESTIONS SPECIFIC TO CLERICAL OPERATIONS

1. Does the step duplicate in whole or in part the work performed by other steps?
2. Does the step record information which has been or will be recorded elsewhere?
3. Would information as a result of this step be obtained more easily elsewhere?
4. Should the forms used be improved or analyzed further?
5. Is there unnecessary writing or copying?

Duplication should be very carefully watched. This often involves the position of the step in the routine and the make-up of the forms used. Taking off information for later use should be postponed as far as practicable until after the immediate purpose of the routine has been served. For instance, it may be better to delay the statistical analysis

of orders until after the order itself has gone out. The use of one-time carbon and fanfold forms as well as duplicating equipment makes possible considerable economies in forms and records.

6. Does the step involve a new study of the papers by the clerk performing it or does it involve only a little additional preparation for the clerk to perform it?
7 Is the work performed by the proper person?

These questions raise points about the correct subdivision of work and its proper allocation among individuals.

D. INSPECTION REQUIREMENTS

1. Is a notation that the step has been performed worthwhile for control or for the placing of responsibility?
2. Is such notation made?

Even in work prepared by hand, notations can be cut down by the proper use of abbreviations, symbols, and rubber stamps. Sometimes a small stamp can be placed near the point of the pencil or pen. A librarian's pencil frequently carries a date stamp.

The placing of responsibility by initialing is an important consideration. In addition to being initialed for correctness, work is often entered on a control record to show that it has reached a certain point. The more complicated the arrangement of departments, the more necessary it is to maintain such records in order to fix responsibility and to guard against loss and delay. Sometimes in a long routine the cases are recorded, counted, and checked over and over again. Frequently an examination of the points where work is recorded will result in their reduction.

3 Is the work checked?
4 How many times in all is the work checked?
5 When would an error probably be caught if the present checks were eliminated?
6 Would the results of error be serious?
7 Is there too much checking?
8 Would test-checking be adequate? Statistical sampling?

The principles involved in the proper checking of the operation are brought out in the chapter on quality of work.

9. Is the exception principle applicable?

Often, a whole batch of work will be routed to a worker or to a department so that occasional or unusual cases may be properly taken care of. The resultant delay on the bulk of clear cases is excessive. In one routine in a life insurance company all cases of lapse (or going out of force of the records of a policy) were referred to a reinsurance clerk several times in the procedure, in spite of the fact that in this company only a very minor proportion of the cases carried any reinsurance at all. The cases which the reinsurance clerk needed to see should have been isolated by a competent clerk who handled all the cases at a prior point. This would be one application of the exception principle.

Again, some cases are much more important than others and warrant more clerical time. Cases involving more than a certain amount of money, or involving certain unusual features, should be referred to experts for special handling or to senior checkers for rechecking. Ordinary workers can recognize such cases if proper rules are furnished, and can route them to the proper authorities. Much time is consumed if all cases are made to go through the hands of each individual who might be concerned with some of them.

E. MATERIAL

The questions relating to materials are particularly relevant in processing, where materials costs are large in proportion to the total costs.

1. Is the specified material suitable for the purpose?
2. Would a less expensive material be adequate?
3 Is the material provided in suitable condition for use?
4 Is it provided in amounts and sizes that permit its use with a minimum of waste or scrap?
5 Is it reasonably uniform and free from defects?
6. Is it utilized to the best advantage during processing?

F. MATERIAL HANDLING

Some of the greatest improvements in American practice are concerned with material handling, which has become an important speciality in many industries.

1 Is the work received in proper quantities?
2. Is the work removed in proper quantities?
3 Is the work received in easily accessible containers?
4 Is the time consumed in bringing the material to the work station and

in removing it large in proportion to the time required to handle it at the work station ?
5 Does the worker normally have to leave his work station to get and deliver work? Is this advantageous?
6. Should material handling be done by operators to provide rest through change of occupation?   -
7. Is work normally brought and removed by a messenger or porter, by a fellow worker, or by passing?   .
8 Should regular messenger or porter service be provided ?

Messenger service with proper equipment has a vital effect on the smooth flow of work. It should apply within as well as between departments to avoid unnecessary running about. Often considerable time is saved by having a messenger within a department or division bring and remove material every ten or fifteen minutes.

One fact which indicates whether a routine or a department needs improving is the number of employees who are walking about the room or standing up. If this is more than 10 per cent of the total, probably something is wrong. If the percentage is less, there still may be much to be improved. Messenger service and other transport of paper and materials are discussed further in the chapter on scheduling.

9 Should mechanical methods of bringing and taking away material be introduced or improved? Conveyors? Pneumatic tubes? Hand or power trucks?
10 Can the work stations for the successive steps of the process be moved close together to facilitate passing ?
11. Should special racks or trays be used to permit handling the material easily and without damage?

Sorting racks and bins are important in many operations. A large variety of such facilities are available, from the simple and easily constructed to the most elaborate.

12. Should work station be moved closer to special equipment or vice versa ?

Relating work to essential records and equipment is important in clerical organization. Sometimes the centralization of several related records will bring about great economies. The use of machines enters into the picture since frequently machines are so expensive that only a limited number are available and clerks have to wait for them. Sometimes this is wise, and at other times it is false economy.

13. Where should incoming and outgoing material be located with

respect to the work station?

14. Can scrap or waste material be handled more effectively?

15. Can department layout be changed to improve the material handling situation?

This last question is equally important in factories and in offices. Relating work to essential equipment and record is important.

G. MACHINES AND EQUIPMENT

1 Is proper equipment supplied and is it properly arranged?

Furnishing proper equipment is important. Many new machines and devices are on the market, with a corps of equipment salesmen. The supervisor should see that the machines are properly used. Sometimes workers do not report maladjustments, broken parts or poor setup The arrangement of desks, work benches and devices is also important to efficient work.

2 Are the machines efficient for the purpose?

3 Would another type of machine be more serviceable? Economical?

4 How long would it take for a new machine to pay for itself in improved production?

5 Would the machine displace workers and if so could they be absorbed elsewhere in the organization?

6 Can the use of the present machine be improved by better jigs, fixtures, or tools?

7 Is the necessary accuracy obtainable with the machine, fixtures, and tools available?

8. Can the present machine be utilized for a larger proportion of the working time?

9 Is the machine properly maintained and serviced? On a regular schedule?

H. MOTION ECONOMY

The laws of motion economy were given earlier. They are extensively used in motion study for optimum performance. A condensation of the many questions in this group is given thus:

1 Can the distance the hands travel be reduced, making hand motions easier and faster?

2. Can both hands be used to full advantage? Is one just acting as a holding device?

3. Should the height of working surfaces or equipment be changed to reduce body strain?

4. Can lifting motions be reduced by changing locations of equipment

and materials, or by using levers, skids, or other means?

I. WORKING CONDITIONS

Many factors in working conditions also affect the efficiency of an operation.

1. Is light ample at all times?
2. Are the eyes of the worker protected from glare and from reflections from bright surfaces?
3. Will better ventilation or heat control reduce fatigue?
4. Is unnecessary noise eliminated? Would soundproofing of ceiling, walls, or floor be worth the cost? If not, should sound-absorbing sheets or mats be used under or near equipment?
5. Is cool drinking water conveniently available?
6. Are washrooms satisfactory and conveniently located?
7. Have safety factors received due consideration?
8. Are workplace and surrounding space kept clear at all times?
9. Does office or plant present a neat, orderly appearance?

J. CONTROL

Many questions on control need to be asked, depending upon the operation. Here are a few:

1. Is the operation properly controlled?
2. Is the product of this operation counted? Are automatic counters used? Could counting be done as a by-product of this step or a related one? Is there any unnecessary counting?
3. Is there a relation between work count and pay?
4. How is defective work handled?
5. What sorts of delay are likely to be encountered by the workers, and how can they be avoided?
6 Are adequate performance records being maintained?
7. Are failures to meet standard performance requirements investigated?

K. CONCLUSION

On the basis of those questions which you think are pertinent, you will then judge whether the step is necessary, how it should be improved, or whether it should be eliminated. Frequently, it is obvious after the first few questions have been answered whether it is worthwhile to pursue the analysis further.

1. Does the order of the step accord with progress of the procedure as a whole and with the service desired?

2. Is the step performed in the right place in the procedure?

3 Can it be eliminated entirely?

4. Should it be coordinated and combined with another in this or some other procedure?

JOB ANALYSIS

Although in some positions a person will do the same thing week in and week out, many tasks consist of one major duty together with several others which occur less frequently or perhaps only once or twice a year. To plan the work of his department intelligently, the supervisor must know exactly what duties each individual is to perform and who will substitute in case of absence. The study of these individual duties is job analysis. It aims to determine exactly what the job consists of, how it is performed, and what qualifications are necessary and desirable.

Job analysis differs from an analysis of routines in that it concentrates upon the work of a particular individual or group in the same job, whereas the analysis of the routine follows operations from worker to worker and does not consider what other things the different workers do unless they directly affect the particular routine. Normally it is best to undertake an analysis of the routines before making job analyses, for an appreciable change in the routine may render almost valueless the analyses made before the change.

The simplest method of analysis, but often not the best, is to get the employees to list or recite their duties themselves. People make their duties seem simple before the vacation season, but elaborate at the time of pay reconsideration. Often they emphasize unimportant points and forget important ones. Careful checking of their descriptions is therefore essential and sometimes takes more time than making the analyses without their aid.

The analyses, when made, should be put in form for future reference. Each literate person whose job has been analyzed should be given a statement of his duties. This may be only a brief list of items or it may be lengthy "standard practice instructions." The statement of duties should be kept up-to-date; otherwise it will lose most or all of its value. We referred to written instructions in the chapter on training.

ANALYSIS BY WORK SAMPLING

Work sampling may be used to analyze an operation to find out the proportion of time spent on different activities. It provides in-

formation which may show up certain problems which are taking up time in unproductive ways. It is also used as a method of work count as mentioned in the next chapter.

If you wish to make such an analysis you should consult good references and get some practice in following the precise methods needed to obtain reliable results.

Basically, the idea is that a sample taken from a group tends to follow the same patterns as the whole group, provided that a large enough sample is taken. Accordingly, it is first determined how many observations must be made and what to define as the units of activity or elements. The observations should also be made in a truly random manner and carefully recorded. They are analyzed by the various activities or elements. Then the ratio of the elemental operations to the total observations is expressed in units of time. Thus it is determined what proportion of the total work time is spent on each activity. This then is the basis for search into the reasons why some operations are time-consuming.

THE SUPERVISOR'S NOTEBOOK

Each supervisor should have a looseleaf notebook in which he files job descriptions, standard practice instructions, performance reports, and the like. It is convenient also to keep on file, in this notebook, interdepartmental memoranda or orders from superiors which affect the work for which he is responsible. Supervisors who keep such notebooks up-to-date have a firmer grasp of their situation.

Broader Aspects
of
Work Improvement

Roughly and crudely, we may say that whereas at the beginning of this
period [modern times] the rate of new discovery and invention was such that
the digestion of major changes extended over the better part of a century,
it has steadily increased until the process of digestion must now be accom-
plished within a decade .. The individual himself is asked to recast his
ideas and his attitudes once or even twice within the span of his active
working life

Julian Huxley, *On Living in a Revolution.* Harper and Brothers, 1944, page ix

It has now become almost a cliche for the successful users of high-speed
automatic equipment in the factory and office to say that, apart from the
advantages of the actual installation, automation has forced them to *think
through* their entire business operation. It has made them ask fundamental
questions about sales, marketing, investment, controls, and so forth, and
about how the whole organization can better integrate these functions
They consider this an unexpected, but possibly the biggest, dividend gained
from automation.

Much the same thing applies to the social impact of automation It forces
us to take a fresh look ... This means getting new and more realistic
ideas about the substance of man's work and its relation to human satis-
faction, about the possibility of enriching the skills needed to perform jobs,

about the question of what motivates men and management in an age of "remote controls" and rapid technological change   Basically needing a fresh look also are problems and opportunities of promotion, of growth on the job, and of satisfactory careers in office and factory work

> Charles R Walker,   "Life in the Automatic Factory",   *Harvard Business Review* January-February 1958, page 119

The personnel policies and objectives of an enterprise . . . may be amplified to consist of

> (i) creating conditions of work in which there would be optimum and willing cooperation from the workers and supervisors as a result of their identifying themselves with the objectives of the organization;
> (ii) ensuring maximum utilization and scope for the development of knowledge and skills of workers as well as supervisors,
> (iii) ensuring justice and fairness in labor-management relations;·
> (iv) catering to the economic and other needs of the worker, commensurate with the prosperity of the organization, and
> (v) establishing and maintaining healthy union-management relations

> R P Billimoria, *Personnel Management, its Meaning, Aims, Aspects and Organization— Some Features and Problems in Asian Countries,* International Labour Office, Asian Field Office Colombo, 1965

PARTICIPATION IN WORK IMPROVEMENT

Throughout the last chapter we talked as though you, the supervisor, were working alone to improve the management of the work entrusted to your care. You could surmise, however, that the authors think you would be losing much of value if you did. If there is a planning department or a personnel department, or both, no doubt you are getting their help and giving them yours. You would also consult with your associates where work touches theirs. You would be sensitive to the needs and wishes of your superiors. Also you would want to get the constructive contribution of your own staff.

In reality, a study made to improve the work is an opportunity to get your people thinking with you and to enlist their cooperation to create improvement. If there is an employee union, its cooperation is needed too.

It is true that some of your people may not be technically very competent. However, experience shows that sometimes people who never gave any previous indication of independent thought come forth with very good suggestions.

Aside from the thoughts you will get, your taking the workers into your confidence will not only allay their nervousness but will also tend to reduce or eliminate their natural résistance to change. Bertrand

Russell, the English philosopher, said in one of his books on education that the baby about to be weaned from his mother would, if he could, say something like this: "What? Ask me to change my habits at my age? Why, I have been sucking breast milk all of my life!"

Practically any change that causes adjustments in working relations may be unpleasant to some people. They are thus called upon to learn new skills and methods. You may not realize it, but even a considerably shorter routine looks and sounds longer than the old familiar one. If you eliminate two-thirds of the letters in the alphabet it would still take you a while to be able to say rapidly "A, D, G, J" and so forth.

Resistance to change is apt to occur when:

1. The worker has not been prepared beforehand.
2. The change will upset established work habits—as most change does.
3. It affects his standing, position, job title, or place of work, even in a minor way.
4. It reduces the worker's skill or the need for him to apply knowledge and use his authority.
5. It involves a sudden adjustment to new conditions.
6. The worker does not understand the relation of the change to his own job or effort.
7. It affects the worker's beliefs and personal convictions.
8. It moves him away from his friends or destroys his group relationships.

Interestingly enough, new methods may be resisted keenly when a work group is happy. Anything which breaks up pleasant relations is viewed askance. On the other hand, if there is already a measure of discontent, there is still apt to be grumbling about change.

People with high production records are very much upset if in undertaking new methods they cannot hit the old stride. You really have a job on your hands to ask them to be patient and work at the new method without losing heart. Your encouragement is really needed until they get a high production rate again.

When workers are kept informed about changes, they react better to them. Almost anyone responds with irritation to a suddenly announced change. The best results are obtained, however, when the workers are consulted right along and when their advice is blended into the change. This is not always easy. You cannot make technical decisions by counting noses. Employees know that, too, and most of them have

a healthy respect for technical know-how and for the key factors in the situation.

The progress of technology in India has been particularly striking since the inauguration of the Second Five-Year plan. Practically every variation of mechanization and automation existing somewhere in Europe or the U.S.A. has its counterpart. Because of the scarcity of machinery, parts, and some kinds of materials, and especially because of the shortage of foreign exchange, the extent of the Industrial Revolution has been less than it otherwise would have been. The West is under the impact of the Second Industrial Revolution. In many industries, India is getting this when the primary revolution of applying power to work has by no means reached its peak. There are nuclear reactors and electronic computers, well equipped scientific laboratories, precision machines and instruments. There simply are not enough of them to meet the needs of the tremendous Indian market.

Inhibiting factors in addition to those mentioned are unemployment and fear of more unemployment; short supplies of capital, particularly foreign exchange, and of some kinds of skills and training; the enormous cost of imported capital goods and hence the relatively high cost of products; the low purchasing power of the people; and some traditions and customs which change slowly.

There is every probability that Indians will not only take up the continuing inventions of other industrial countries but also contribute greatly through their own inventiveness.

The enormous increase in the variety of consumer goods showing up in the market indicates the steadily mounting supply of goods from Indian factories. Moreover, exports are rising too.

The villages are getting electricity, water pumps, machines, and books, for example. Factories are springing up in or near every city and major town, and even in the countryside. The traditional "red tape" of government is being reduced with office machinery, and in some key points, with electronic data processing and more recently through the installation of computers. A number of industries turned first to punched card equipment and lately to computers. Shops which used to have an abacus for counting may now have a cash register or an accounting machine.

OFFICE MACHINES

Since progress in industry is well known, this chapter will concentrate on the revolution in the office, starting with office machines.

The growth in the number and size of offices has led to a large increase in the variety of office machines and appliances. Equipment has

been and is being designed to make office work faster, neater, and more accurate than can be accomplished by hand methods. When the right equipment for a given purpose is chosen and is properly installed and maintained, the output is often improved in quantity, quality, and time. Improvement in accuracy has been achieved through balancing operations or "controls." Much drudgery has been eliminated.

Frequently, the savings assigned to new equipment come largely from the improvements in method resulting from the study made before the machine is purchased. Many improvements are generally possible without purchasing new equipment. These can be secured first, and then the possible additional savings from the use of the machine can be evaluated. Consider how much time would really be saved. Until a supervisor can plan to place the workers on other work, it may be undesirable to make the possible saving.

Since machines are often expensive, installation is usually made only after cost estimates have been carefully worked out. The cost of the machine, the interest on the investment, and the factors of depreciation and obsolescence must be determined. In view of the frequent changes made in office methods, a machine which may run for twenty years may be useless because of obsolescence in five years or less. Therefore, some companies require a computed saving sufficient to pay for the new equipment in five years. If, after careful investigation of the need, a machine appears desirable, it should be remembered that usually there are various types of machines on the market for handling similar work. Often several should be considered.

Some of the persons making a living by selling office equipment make careful and valuable surveys of a company's problems and base their recommendations upon the requirements of the particular office. Supervisors should cooperate with the latter type of salesman by giving such information as they can without divulging any confidences. They should warn a salesman that they will consider competing machines before making any positive recommendations. Care must be taken to cooperate with planning and purchasing departments.

Workers often use mechanical appliances ineffectively. The salesmen or service men for the machines usually are glad to help the supervisor get the most from them, and they can often give helpful advice by observing an operator. Sometimes the mere fact that a person has a machine makes him distrust his own capacities and he thinks that he must use the machine whenever possible rather than only whenever it will aid him to accomplish the desired end result.

Mr Shah was checking the amount of interest due on mortgages, using

only a pad and pencil The person who had computed the interest initially had used a calculating machine. and one was available to Mr Shah When asked why he did not use it, he said, "Well, it's simpler to use my head in so many cases because the amounts are in even thousands of rupees and the interest rate is simple If I used the machine, I'd spend too much time putting the figures in it on the simple cases So I do most of them in my head and use my pad for the rest, and I make more speed than if I used the machine for all"

It had never occurred to him to have the machine beside him and use it only on the difficult cases

In another company a clerk was dividing by two on a calculating machine He had been told to use a machine for his work and so he did so.

Remember that machines sometimes get out of order. Some careful companies require machine work to be done twice, once on each of two machines. In any case, it is well to test the machines from time to time and to watch the results in order to catch mistakes which might cause trouble. Keeping the machines in good repair and properly protected from dust, dirt, and incapable, untrained handling will lengthen their life and result in better work.

GROWTH OF OFFICE WORK

From decade to decade the office has been growing in importance. The number of professional and technical workers and of managers and officials also has been mounting rapidly—many of these are in offices too. Every industry has at least one office

A number of major reasons may be cited for the growing volume of office workers.

1. There has been a great growth in the number and size of office-type institutions, for example, insurance companies, banks, and government agencies.

2. There has been an increasing necessity for records and reports in all organizations, including those engaged in manufacture, transportation, merchandising, service industries. and federal, state, and local government. Office records are required in connection with every angle of a business.

3. Not least are the reporting and audit requirements imposed by federal, state, and local government, including records for income and property taxes, social security, and standards of wages and hours.

4. Management itself requires more and more data for analysis of results for planning and control and for reports to stockholders, to

the public, and to government.

5. The growth in size of organization has required more paper work, for example, reports from a factory in Madurai, to the company division in Madras and to the headquarters office in Bombay; from an internal revenue office in Poona, to a regional office in Bombay, and to headquarters in New Delhi.

Office work has usually been closely under the eye of officials and has been relentlessly improved by methods analysis It has been subject to the advance of the machine, from the typewriter in 1868 through the punch card tabulator in 1911 to the modern "giant brain." This advance is now speeding up. The office is one of the chief scenes of current automation. Wherever you find reading, writing, filing, looking up, copying, recording, addressing, adding, calculating, sorting, grouping, or transmitting information by memo, mail, telegraph, telephone, radio, dictating machine, or public address system, there you find that engineers have designed a machine or a system or both to do the job. The mechanizations and improvements have not solely affected the large office. Work formerly done in a small office by pen or pencil and paper or by simple typewriter or adding machine is now increasingly performed by mechanical, chemical, or electronic means. The office too small to own or rent equipment may save money or time by having at least part of its paper work performed under contract by a company specializing in office operations.

When the Bank of America in California installed the experimental electronic computer developed by the Stanford Research Institute, the following description appeared in the *New York Times*, September 22, 1955:

Erma is a 25-ton bank clerk capable of handling the bookkeeping details of 50,000 checking accounts every day. While it still handles the work of the bank's four branches in San Jose, it can keep the books of a dozen branches of average size. Erma sorts checks by reading magnetized numbers, credits individual accounts with deposits and subtracts withdrawals. It accepts "stop" payments and "hold" orders, catches impending overdrawing of accounts, and keeps customers' balances always available When a customer's monthly statement is required, the computer will figure the service charge and turn out a complete printed record of deposits, withdrawals, and balances for the month at the rate of 600 lines per minute. Nine operators will be required Five will sit at a keyboard and feed incoming checks and deposit slips into the machine Others will operate a check sorter and supervise details.

Many more Ermas are working for the Bank of America. Today a variety of computer systems are working for many kinds of American

financial institutions. There are many companies manufacturing and selling electronic computers in the United States alone. Their application to office work in business and government grows daily. If you purchase a ticket for an airflight, an electronic computer may make your reservation and hold it for you on the flight of your choice. If you order one of thousands of articles from a particular Chicago mail order house. the computer takes the catalog number, subtracts the item from stock. adds it to the sales total, at the end of the day totals the amount and value of the day's sales, and maintains inventory control. In the Navy Department an electronic computer processes all payroll operations for 25,000 employees. In the Department of the Army an electronic computer keeps information on the qualifications of all Army officers The Bureau of the Census tabulates millions of census items by computers The Weather Bureau computes weather maps from data from local stations.

Data for computers and other tabulating machines are usually punched on cards or on rolls of paper tape by operators using key punches or other such machines. The data may also be recorded on magnetic tape by typists. Scanners have been developed that will read numerals or typewritten characters and automatically prepare cards or tape suitable for machine processing.

Accounting, payroll, bookkeeping. stock. and sales records are often now being computed and records maintained in central computer service centers. Even small merchants and companies can now have the advantage of speed, accuracy, and economy in record keeping formerly employed only by the largest firms

EFFECTS OF OFFICE AUTOMATION

The effects of automation are farreaching and affect the office supervisor and those persons with whom he must deal

1. *Much drudgery is abolished.* Take. for example. an old improvement—the use of plates or cards to do addressing automatically. The further development of scanners should cut down or eliminate the monotonous tasks of preparation. Many dull jobs of card punching, filing, looking up, adding, and calculating will be eliminated entirely or will be much reduced in volume.

2. *Decisions can be based on better information, brought together much faster than ever before.* A great variety of information can be assembled. analyzed. combined. and recombined in a short space of time.

3. *Advantage can be taken of current results and those of the immediate*

past in order to update policies and operations and take prompt corrective action. Far greater control of operations may be obtained. Best results can be analyzed and the best practices promptly made available for broad use.

4. Emphasis is placed on *continuity,* both in scheduling of operations and in the processing of data. Even when an operation is not mechanized, it tends to be viewed as part of a continuous process. Thus there is a growing effort to see the various parts of an office or of an organization as part of a whole.

5. *More skill and accuracy are required, even on lowly clerical jobs. Many jobs of routine, repetitive work are abolished* in an office with electronic data processing. Exacting requirements are set for orderly and systematic performance—it is a serious matter, for example, to put the wrong roll of tape in the computer. The old THINK sign is more needed than ever.

6. *There is a sharp rise in demand for many types of skilled clerical and professional workers* to prepare systems for use of the complex machines, to prepare data, to program information, to analyze results, and to maintain the system at a peak of performance.

7. *Those not immediately involved in data processing must nevertheless make a considerable effort to understand what is going on.* Many operations not concerned at first become progressively involved because of the value of bringing many streams of information and operation together for decision-making, for control, and for cost-saving.

8. *Those who are not upgraded suffer to a greater or less extent.* Some must be downgraded, retired earlier, or dismissed either because fewer jobs remain with the new systems or they lack the capacity for the changeover. The real trouble arises when people lose an opportunity to use their acquired skills and do not have a chance to learn new ones. This trouble should be avoided as far as is humanly possible. How would you have felt if you had been a buggy-whip maker when the automobile eliminated buggy sales? Your answer would have depended, of course. upon your age and other skills when the whip factory shut down. Thousands of clerical workers in the U.S.A. are finding themselves in that kind of situation. Actually, there are few people too stupid to learn new skills, but they may become too upset by change to be able to adjust quickly to altered conditions. You as a supervisor should realize the situation for your own employees who may be displaced from your unit and face downgrading or serious readjustment. It is much harder for you to be sympathetic and truly helpful to the displaced person who may be moved into your unit. Yet the morale of the best workers in the company may depend on how you handle the poor, shaken-up creature who lands on

your doorstep! The morale of people is much affected by the handling of personnel in times of crisis. It may cost you much in patience and thoughtfulness to deal with these problems of people. Whether you are losing the person or gaining him, he may be the acid test of your capacity as a supervisor.

9. *The supervisor's other personnel responsibilities are stepped up too.* People should know more. The pace of change is increasing, so they should keep learning and stay flexible. Moreover, with exacting demands for understanding and for precision of work, turnover of employees becomes increasingly expensive because it costs more to test, select, place, and train them.

10. *The supervisor's responsibilities for planning are increased.* The general concern with systems and with machines creates a need for the alert supervisor to look for new and better ways of doing work and to cooperate understandingly and willingly with those in the company who specialize in planning and systems work

11. *Where office mechanization takes place, labour organizations will be concerned with any effects upon the workers*

THE ELECTRONIC COMPUTER SYSTEM

By far the most revolutionary event in office work is the coming of the electronic computer, or "giant brain." The first machines of the type were developed in World War II to handle the extremely complex calculations required for fire control and other processes of warfare. At first used in the defense departments of the United States Government, they were adapted a few years after the close of the war to the work of the Bureau of the Census and then became commercially available. Because of their great expense—originally at least a million dollars —they were first used only by very large companies and government agencies.

These computers have been followed by smaller and less expensive computers suited for use in medium-sized companies. Another way of utilizing the advantages of a computer without huge expense is to take statistical or accounting work to a computing service center or to work out a cooperative arrangement with a large company for use of its spare time on its machine.

The electronic computer is used to transmit, classify, process, store, and record information in complex ways and at tremendous speed. Its work is often described as "automatic" or "electronic" or "integrated data processing."

An electronic computing system entails not only the computer itself

but also machines for input and output and equipment for material handling and storage. The system has five basic elements:

1. The *input* element introduces coded information into the computer.

2. The *computing* element processes and compares the data.

3. The *control* element schedules the sequence of operations and automatically determines the action of the computing element.

4. The memory or *storage* element retains information in permanent or temporary form.

5. The *output* element withdraws and records information from the computer.

The input information is placed in code on magnetic tape or punched into cards or paper tape that can be fed into the machine system. The medium of input depends on the particular computer. Converter machines are available to change the medium from punched cards to punched paper tape or to magnetic tape or vice versa.

The computer can solve complex problems quickly by performing a long series of simple steps in rapid sequence It can multiply, divide, subtract, and add. What might take a mathematician months or years to compute with ordinary electrical calculators can now be done on the computer in seconds or minutes. Multiplying two seven-digit numbers such as 7,945,983 by 2,599,749 takes a man five minutes using a pencil and paper. A computer in 1954 could multiply a twelve-digit number by a nine-digit number about 2000 times in one second. Ten years later the computer can complete this process in one-tenth second or less time

The machine, in order to perform the series of steps, must have "instructions." Most supervisors have seen the wiring board used in a punched card tabulating machine. That wiring board, in effect, is a set of machine instructions in electrical terms. In accordance with the wiring, the electrical contacts are made or broken (like switches being turned on or off) in a certain pattern A similar method is utilized by an electronic computer. The instructions must be specific and detailed. The procedure for processing the information must be precise at every step. Devising the procedure and preparing the instructions are often · called "programming" for the machine.

The computer can store a vast amount of information. In response to instructions, it can select specific pieces of information from its storage unit for further processing or for delivery to some output unit of the computing system. The types of data stored in the machine need not be related. The data can be taken out onto magnetic tapes, cards, or discs. One reel of tape can hold as much information as can be contained on 850,000 standard punched cards. The tape reels, properly labeled,

can be stored economically and duplicated by machine. A tape storage unit occupies about four square feet of floor space and contains 120 reels of tape. This space can store approximately 2000 times more information than a similar file of standard punched cards Even this will be surpassed shortly.

The computer system is still in course of evolution, but has already been carried far. It is now technically possible for information to be processed, classified, combined, stored, and transmitted in accordance with plan and without human coding or copying. Normally the data must first be put onto punched cards or paper tape or magnetic tape The scanner can read certain kinds of information and code it into the machine language. The Bureau of the Census developed a method where data were processed by machine from the time the census-taker interviewed the citizen until the statistical tables were completed. The citizen's replies were entered on a form with a mark-sensing pencil. The data were transcribed photoelectrically from the form to microfilm and thence to magnetic tape as input to the computer. After the computer had performed the classifying and other processing, the finished data were run off by printer equipment at the rate of 1000 lines per minute. The resulting sheets could then be photo-offset as statistical tables for publication. Other data might be put through a specialized machine that makes graphs or maps.

DEVISING AN ELECTRONIC DATA PROCESSING SYSTEM

The normal steps in considering and installing an electronic data processing system are traced below:

1. Learn the capabilities of the machines. This step is performed by one or more persons, usually in the management planning office, through reading, attendance at conferences, talks with office equipment salesmen and engineers, and visits to existing installations.

2. Study the company's operations in order to select one or more fields of operations for data processing. Computers are most commonly used on payroll, inventory control, production scheduling, order servicing and billing, and all kinds of accounting or mass handling of data.

3. Study the advantages and disadvantages of a computer system for one or more fields of operations. This study is commonly called a "feasibility" study. This should include personnel requirements and displacements in a general way, not necessarily for each specific position.

4. If advantages appear to outweigh disadvantages, prepare a proposal for purchase or rental of the equipment. Usually this decision is made

by top management because of the expense involved. The equipment companies are glad to give data and help in framing the proposal. Once the machine is selected it may take a year or more to get delivery.

5. Usually before but sometimes after the decision is made to procure a machine, make a detailed study of what is now done in the one or more fields of operations which are to be considered for the computer system. Unnecessary steps may be eliminated as found. The result is put into flow charts and into detailed written descriptions of each step in each procedure to be covered. This analysis is necessary for the design of the new procedures.

6. Make an advance study of the impact on employees and of the changes in individual and group behavior which will be necessary and desirable. Decide how these changes can be brought about and tensions eased.

7. Study the skills used in the computer system and prepare detailed training plans. Select persons, usually from within the company, for training in "programming" for the new procedures. The computer has to have detailed and exceedingly accurate instructions to control the sequence of machine steps. Also existing data have to be revamped and coded to fit the machine process. The peak of programming and coding comes before the delivery of the machine but continues to be necessary for adjustments and later developments.

8. Each individual job affected should be reviewed and a plan made to help each person adjust to the changes. This point is dealt with further below.

9. Select the persons to operate the new system. Most of them are drawn from among those who prepared the system and worked on the programming. Provision must be made—often by contract with the equipment company—for supervision of the very complex machine and for its maintenance. Operators for each machine must also be trained.

10. When the computer and auxiliary machines are delivered, make the trial run of the system. This is a thrilling experience. Then more and more work is put into the new system. When the originally planned system is fully installed. there is usually still unused machine capacity. so new systems are devised which, in turn, are incorporated into the going operations.

11. Make adjustments in jobs and personnel. The employees who had been engaged in the old operations have by now been retrained or have been relocated on other work in the company or have left through turnover and other causes. When the system is fully installed, some people are often available for transfer to other work.

12. Study the companywide implications of information processing and gradually expand the system.

Many companies which start with computers limited to special operations, such as payroll, accounting, record keeping, sales analysis, etc. have redesigned and gradually changed their systems to service corporate policy and management needs. The resulting changes place computer managers often at the vice presidential level where their influence is felt companywide.

Several years at least are consumed between the beginning of step 1 and the conclusion of step 11. What, you ask, is your role in all of this? That depends partly upon how closely you are involved in the old and new systems and partly on your own attitudes and adjustability.

If you are a supervisor of part or all the operations that are placed in the new system, you can see that you will be greatly affected. You may yourself do systems work or programming or both. Your own job may be abolished and so may the jobs of some or all your people. You may find not only that you have had to learn how to do things you never dreamed of before but that you have become a trainer of people to do things entirely new to them.

· The burden upon the supervisors in the units affected by the changes will in any case be heavy. Superiors may make logical plans to revise the organization structure, redefine responsibilities and duties, and introduce new methods and equipment. The supervisor has to deal with the people directly in face-to-face relationships. When people are to perform in new roles, they need help in learning the new and unlearning the old. They must learn not only additional skills but also new responsibilities and relationships. Thus their behavior and even some of their beliefs may be modified and their feelings adapted to a fresh situation. New group bonds and sentiments must be developed. In order to lead in a group crisis such as a big organizational change, the supervisor needs to think ahead and outline a plan for each person which takes account of the individual's beliefs, feelings, and mode of reaction. Special pains should be taken with informal leaders whose attitudes are normally reflected in the group psychology.

Although the new machines are big and glamorous—and even require air conditioning—human beings are still important. The system, more than any previous one, needs their brains and their cooperation. Nevertheless people involved are affected in many ways. Their jobs and the flow of work are changed. Many workers must be retrained to take on technical tasks of programming; others must develop new skills to operate and maintain the equipment. Still others must be moved out to other jobs in the company. Some may even be laid off. Many have a chance to acquire more and higher skills and new knowledge, and perform less monotonous work. The supervisor wants to prevent down-

grading of individuals—he wants to help them maintain or improve their skill level and their standing among their associates. Social groups. too, must be broken up and new groups formed. These are times when emotional disturbances can flare up and when turnover and absences may rise Sensitivity to people's emotional and social needs can be an important element in maintaining morale.

Suppose, however, that you are not directly affected The cumulative effect is still likely to be great. The tendency to view all operations of the company as part of a common system has its impact on your work. Probably the chief result of the computer system is better and speedier information for executive decision. You can think of the information as the life blood of the enterprise and the information system as very like the circulatory system in the human body. You know that there is no part of the body where the circulatory system does not operate. In time to come, all information in the company is apt to flow into and out of the information system. The information you use and that you convert or produce is likely to enter and leave that system in an orderly, planned, and highly scheduled manner. You probably feel a new pressure to get information in a manner that fits the new system. The procedures you use in your work—even if seemingly unrelated to the electronic data processing system—many nevertheless have to be more clear, more scheduled, and more smoothly controlled. The procedures of the entire company tend to be tighter and more integrated.

Then, too, some of the people on your staff are apt to be affected. You may have to give up some of your best people to work on programming—probably with a nice promotion. And you may have transferred to you persons who formerly worked on operations taken over by the computer. These changes necessitate readjustments of human beings. They may also involve worry and tension. Just at a time when you find you need to stretch your mind to take in a great many new terms and methods connected with automation, you may have even greater demands made on your human relations. This, however, is your opportunity to develop not only technical competence but sound and wise leadership.

Standardization
of
Work Performance

Consistency is the one basic management requirement in India or any-where else—"firm but fair." Even harsh management can achieve high production and maintain industrial peace provided it is consistent. Nothing is more demoralizing to a worker than not being quite sure what will happen if he takes a certain action. We have an English saying "biting on the bullet." If the worker knows he has to bite on the bullet, and if it is always the same bullet, he will accustom himself to it. By this I do not at all mean that a worker in India should have to bite on the bullet. No worker should be subjected to harsh treatment because he is economically defenceless, because he has to work somewhere if he and his family are not to starve. The pressure of unemployment is always so strong in India that industrialists are often tempted to obtain a man's labor as cheaply as possible. But if industry complains about the pressures of trade unions or of the elaborate laws, they must appreciate that protection for the worker is-still very necessary—if not in their firms, then in others. Trade unions and labour laws are not the cause of bad industrial relations, they are the effects of them. Thus I would not recommend either the hard or the soft approach I am at this stage only recommending the *consistent* approach.

> J S P. Mackenzie "The Changing Philosophy of Personnel Management and In-
> dustrial Relations" *Management Bulletin*, January-March, 1966 Department of
> Business Management and Industrial Administration University of Delhi Delhi
> page 32

Office operations, as a rule, require reading, deciding the course to be taken, and taking that course. The decision as to the course to take is not entirely dependent upon actual experience in that particular work, though that is an important factor. More important, perhaps, is the quick reaction of mind in grasping a situation, which is largely a matter of habit resulting from training and continued, persistent practice.

The habit of speed in mental reaction—which may also be called speed in making a decision—can be cultivated in most persons, if not in all. If the work of the slow-moving clerk is analyzed, it will be found that the chief reason of the slowness lies in this element of decision—it requires an appreciable time for him to decide to make the motion Some clerks will hesitate before each motion, while others will move rapidly, though quietly, and seem to be exerting no great apparent effort. In typing, this has been alluded to as rhythm—in which lies the secret of speed—but it has not as yet been defined in other clerical work . . .

While the element of decision is the greatest factor in the development of speed, an important additional factor is the development of the *habit* of making quick motions. Assuming that the worker has learned the correct motions and their proper sequence, the next requirement is the development of speed in making them. This is entirely a matter of habit, which can be acquired only by repeated practice

THE IMPORTANCE OF STANDARDS

Standards are an important element of good management. Strictly speaking, *a standard is a criterion of performance, established as a result of scientific investigation and representing the present stage of the development of the art.* Not all standards are scientifically determined but the scientific spirit is important. It is well to begin the development of standards in a commonsense way and improve them over a period of time.

The supervisor can far more intelligently direct the work of his department when he has set standards of what he expects in the way of volume, speed, quality, and cost. In some companies, the planning department may take care of standardization; but in other companies the supervisor has to set his own standards, at least for many aspects of his work. One of his duties is to see whether the individual employee gives the company a satisfactory return for his pay. Ordinarily he has no difficulty spotting the exceptionally good or poor worker, but it is hard to judge those nearer the average. A knowledge of what he may reasonably expect aids him in dealing fairly with those who are exceptional, average, and inferior.

For the employee, a fair output is what can be turned out with honest effort. This depends on a number of factors, most of them under the control of management Those under his own control are the proper development of his skills and intelligent cooperation in working within the system.

For the management, however, a fair output, where performance standards have been set, is a result satisfactory in quantity and quality as performed by an average or good worker on a particular job.

The result will vary in accordance with many factors. Among them are these:

1. The volume flowing through on a particular day.
2. The type of equipment used.
3. The layout of work
4. The system, procedures, and methods utilized.
5. The workers' aptitudes required for the jobs; the availability in the labour market and in the individual company of a sufficient number of workers with the aptitudes needed; and the use of qualified individuals to good advantage.
6. The quality of supervision and teamwork.

In brief, *a fair output is what the management may reasonably expect and insist upon getting from an employee, considering his experience and training and assuming good direction, good planning, and a regard for his health.* A worker in a badly managed company which operates with poor systems should not be expected to accomplish as much in a day as a worker in a company with good supervision and effective systems. A slight change in supervision or method may result in striking improvement in production without increased effort on the part of the worker.

Supervisors commonly have in mind certain crude criteria for the performance of a job. These criteria should be rendered more precise. Supervisors say, "We know about what to expect," but they are not necessarily correct in their expectation. The average output of several people working on the same job may not be a fair normal since the pace may be set by slow workers and the average held down. Frequently the results are decidedly inferior to those achieved when a standard is set and maintained. For instance, commercial schools turn out typists able to type 40 to 50 words a minute, 70 to 90 being excellent and 100 and above being attainable. The speed in the usual office is often far less, however.

The need for the exercise of judgment is often used as a reason for doing without standards. The fact that judgment is a key factor does not

necessarily make standards impracticable. Judgment based on analyses of all component factors is the distinguishing characteristic of mortgage lending, for example, which may involve the risk of thousands of rupees. In this type of job, however, it is possible to predict the number of cases a good mortgage underwriter may act upon in a week or longer period. One case with complications may take him as much time as ten others, but the law of averages applies to him as to others. We emphasize the quality side of standards in the next chapter.

THE FACTOR OF SPEED IN PERFORMANCE

Management has a great effect on speed by its planning and organizing. The scheduling established, particularly the flow of work from department to department, markedly affects the total time the papers take to go through a routine. Management also has a large share in the speed of individual workers through the systems set up, through reducing waiting time and, above all, the atmosphere of the department.

The right emotional background and a happy, genial spirit in the department tend to promote speed. Appeal to various motives helps. For instance, the desire to serve the sales force in a campaign will tend to raise output and meet a peak load efficiently; the wish to accomplish is a powerful urge; a healthy competitive spirit and a friendly rivalry will act as stimuli to effort.

"Driving" and "nagging" are poor expedients since they spoil the genial atmosphere from which good work emerges most easily. A sense of tension or pressure may be depressive and thus lead actually to less performance. It may also take a heavy toll through fatigue.

Sometimes people are rushing hard and suffering from a sense of pressure when their actual speed is not great. On the other hand, when they get properly in the swing of work, it sometimes goes extremely fast with no apparent effort. There is a mental tone of buoyancy and achievement.

Some people are naturally quick, but others need consciously to develop speed in their reactions.

Persons are sometimes not aware that they are slow. For instance, one supervisor divided a certain volume of work between two men, one of whom was naturally quick and consistently finished before the other. The latter became irritated and insisted that the work was not being divided fairly. The supervisor therefore let him do the dividing himself, until he was entirely convinced of his own slowness.

Almost anyone can increase his speed. Many people go through

waste motions which, if analyzed, can be eliminated. But often proper motions are much less important than speed of decision. Much work consists in making decisions as to which set of rules fits a given case. These decisions are not necessarily difficult, but many discriminations are needed. Prompt decision is largely a matter of habit. The quick worker learns to size up the situation quietly and efficiently and to put things through in far less time than the slow one. Three-fourths of the workers rated very accurate in one large company were also rated very fast.

The habit of speed is itself important. It is broken down when there are frequent intervals of waiting for work. Dawdling is bad for proper working habits. Some supervisors do not want workers to appear unoccupied even when they do not have enough work to keep them busy. Others believe that the more evident the idleness, the better, when it arises from finishing up all the work in sight.

Excellent results have been achieved in one large office by allowing clerks to read, knit, or sew when they finish their allotted task. They work hard and effectively while they are working and they do not stretch out the work to appear busy. Evident idleness is a considerable spur to the supervisor to provide work to utilize his staff effectively. Miscellaneous jobs will be thought out and accomplished during these slack periods instead of being left to pile up until they are so formidable that overtime may be required.

Speed does not necessarily diminish the accuracy of work; in fact, up to a certain point, it seems to increase it. In one large department accuracy was greater with a moderately heavy volume of work than when it was slack. During sales campaigns when the salesmen were working particularly hard and often staying overtime, their accuracy record was very good. A head of a manufacturing department says, "The workers work much better when they are busy and keep up to a certain stride. Even if they are too busy, it does not make any great difference to their errors, which vary from one individual to another." The increase of speed beyond the efficient point, however, does bring about an increase of errors and a sense of fatigue.

One fast worker will often bring up the average of a whole department simply because the others will strive to emulate him.

A totally blind girl was given a position transcribing letters from dictating machines in a central stenographic department. Her output of letters in both quantity and quality soon rose above average. The supervisor said that although he had taken the blind operator with many fears, he found that her presence had made the other girls improve their work. As one girl com-

mented, "If Nellie can do such good work when she cannot see anything, I guess I ought to be able to do as well when I have no handicap at all "

MEASUREMENT OF PRODUCTION

The first essential in setting a standard of output is to establish means to measure production. This *work count* gives you the overall data for control of your work.

For measurement to be meaningful, the classes of work to be measured should be reasonably homogeneous and the volume must be sufficient to justify the counting and recording involved.

You should get your work count without needless duplication. If you can get a count from another department, such as the central mailroom, so much the better. Sometimes the count is made at a sorting point in the total routine. Here you may be able to get the count broken down into the classes of work you need to measure. It is customary to maintain totals of orders on hand (or the equivalent in incoming requests) and orders (or other units) completed. The balance at any time is work in process.

Many work counts are made at some machine stage where an automatic counter is available. In many routines there is a step where all the cases are listed for control or are assigned a number on a predetermined control.

The work count need not necessarily be exact. Sometimes the volume of work can be closely estimated. Cards to be refiled can be stacked and measured with a ruler, the average number to centimeter being known The amount of outgoing or incoming first-class mail can be weighed to determine the volume.

SAMPLING

Sampling is a technique for testing a small batch of work to see how it compares to the expected standard in time elapsed or in some other respect, such as quality. The time consumed to complete orders, for example, can be tested by taking a batch of completed orders and examining the records at the various control points. This will show the actual time elapsed. Work in process may be similarly examined by sample.

Sampling of the work by statistical methods may also be used to obtain a work count or to see whether the standards set are actually being obtained.

Samples may also be used to indicate the breakdown of the total time by operation or by clerk. Such a method is the "ratio-delay"

technique, which may be applied in large offices. A record is made of the exact activity in which everyone is engaged at a precise moment. The amount of time spent on each type of operation is made by taking a ratio of the observed activity as a portion of the total amount of time available.

STANDARD SETTING

For actual standard setting, it is necessary to measure the output of each person or representative persons. In order to make measurement easy, a unit should be chosen which is simple to count, which is considered fair, and which does not delay the routine. A simple type of individual production record is shown in Figure 4. As the worker completes each case, he enters a tally mark in the box for the appropriate hour. This type of control can easily be elaborated for use where the worker handles more than one class of work. The individual records

MASTER CARDS CHECKED

By   Date

9–10	10–11	11–12	12–1
1–2	2–3	3–4	4–5

Masters on Hand	B. I. D.		Re-Assce. Masters		Total	
	O. D.				Total Re-A.M.	
	Reg.		Errors		Total Errors	
	Total					

Figure 4. A Daily Production Record

may be added up at the close of the day to get the number of cases handled in the department or to balance to a predetermined total.

Just as the departmental volume can be obtained easily from the sum of individual records, sometimes the individual volume can be at least approximated by applying a known factor to the departmental total. Frequently, work goes along a definite route from each person. It may then be necessary to count it only once.

The supervisor should know how much working time is required by a typical case at each stage. One way of telling this is to have each person

enter, on a route sheet attached to the job, the time he begins and finishes. An analysis can then be made of the actual times taken, and an average time for a typical job worked out. This average time can be checked up by actual observation of the time a person takes on a number of jobs preselected as typical. The analyst can then see what relation the "typical" job bears to the actual run of jobs.

The analysis will reveal that not all the time of the employees is spent in working on the cases or in absence from the room, but that time is somehow lost in delays and waiting. Attention to causes of these delays will result in a higher production. This is one reason why determining the length of time per step is worthwhile.

Different workers will take different lengths of time on the same step. Comparison may show some variations because of psychological factors and some to differences in method. Observing the points in which one person excels and passing on the technique to others will improve performance.

To determine a standard time, the various observations of the times taken at different steps and by different persons are combined in a number of ways according to the method used. The median or the average time may be used, or before it is calculated, some of the highest and lowest observations may be discarded. Sometimes the observed times are arranged in order from the least to the largest and a figure one-third of the way from the least is taken as the standard.

The standard set should provide a reasonable time for performance by good methods, but with allowance for usual and unavoidable delays and personal time. Five or ten minutes per morning and per afternoon are usual allowances for personal time. Extra time should be allowed for preparing and cleaning up certain machines.

A good method of working out rough standards for different classes of work was devised by a supervisor in a card record department of a large life insurance company. His clerks handled a considerable variety of different kinds of changes on the record cards, for instance, changes of beneficiary, of name, of loan against the policy, of plan, of address. He wished to know the length of time which each class of case took. He therefore inspected one hundred samples of each class before they started through the department, and made sure that none was abnormally difficult. Each batch of one hundred changes then went through the department according to the regular routine, each clerk working on the batch recording the time when she began and finished. The supervisor carried on his regular work, but watched the clerks from his desk to see that they were working with their usual apparent speed. Thus the working time for one hundred changes of each class was obtained. Some

types were completed in three or four hours; others took over a dozen hours. The department head compared the time taken at certain stages for routines differing but slightly and was able to suggest improvements by such comparisons. Moreover, the clerks became interested in beating · their previous records. Also, by comparing the time different persons took on similar steps, he gained a better knowledge of which clerks handled the work most efficiently, and he trained the poorer performers to do better.

At intervals of six months he repeated the test to measure the results of the improvements. Each time further suggestions for improvement were carried into effect. He also kept records of the volume of work reaching his department and was able to reduce the weekly peak load by careful scheduling. By keeping track of the fluctuations in volume because of seasonal trends he was able to plan his vacation schedule more intelligently.

This type of analysis can be applied by a supervisor without special training and it proves very effective.

One difficulty in setting up standards is the uneven flow of work. The standard should cover work at a normal rate of speed. Provision for peak loads must be made by the allowance of free time. Some departments allow 20 per cent free time to take care of heavy volume when it occurs.

Another difficulty which supervisors mention in regard to standards is the difference in capacity of the individual for the job. Each type of work is best performed by those who have the proper qualifications. Those who have too high or too low an intelligence do not achieve the same results as those who are suited to their tasks. The supervisor in all his relations must deal with adjustment of the individual person to the particular job.

All standards of any kind are based on observation of human accomplishment. Assuming that standards of quality and quantity are to be set by observing the actual accomplishment of different workers, should the standards be set at the average figure which a satisfactory worker can turn out, or at the higher figure obtained by the specially good employee? Supervisory groups have discussed this point vigorously. Setting a standard above the average tends to discourage the average worker, whereas setting it too low discourages the exceptional one. A satisfactory quality and quantity should be determined, below which the output should not drop, except under unusual circumstances, but a goal should be set to stimulate the average workers to improve, and the exceptional ones to achieve something unusual. Motives actuating the individual must be appealed to in order to call forth fine achievement.

It is possible to standardize any work which follows definite rules. In a factory performance standards may be very definitely set. For some factory work one can say that "a performance standard implies an operation with a standardized work content upon a standardized material with standardized appliances by a standardized method under standardized conditions." In the usual company such a level of operations is not attained for it requires great care to achieve and maintain it with the assistance of time and motion study and systems engineering. Before this level can be attained, much prestandardization is necessary, the elimination of duplication, back-tracking, and unnecessary operations. When a good, streamlined operation has been achieved, when production is measured on numerous tasks and when workers are motivated to turn out excellent work in quality and quantity, the further standardization is in order.

The supervisor, sometimes with help from a staff department, can do much to establish standards. Really refined "engineered" standards, however, are almost always worked out by specialists in time and motion study and industrial engineering. The supervisor should understand the essentials so that he may cooperate intelligently and get the maximum benefit for his division.

The first step in *time study* is to select the unit of measurement. The second is to observe the times actually taken by people on the work. A stop watch is used which can be read to one one-hundredth of a minute. Sometimes only the total time, or the "overall time," for a certain operation is observed, but much better results are obtained when each individual point in the operation is timed separately. It is said that a person performs twenty-four different movements in putting on a coat. If these twenty-four movements are separately timed, he may be able to eliminate some movements entirely or to find out where he is awkward and takes too long. The proper approach to the workers and making necessary allowances and adjustments require more than an ability merely to read the watch correctly. Often one has to time a worker for a quarter to a half an hour before he is sufficiently used to being observed to make the timing of much value.

Work to be timed is usually divided into a number of small parts or units, and the times taken to do each part, or the "unit times" are obtained. The greater the division of the work, the larger is the chance for improvement. Some people who are only average in some parts of the work may be much better than average in other parts, and the good aspects of their work may be taught to others.

A standard time for the work as a whole may be obtained by adding together the good times for the various parts of the work. The unit

times as observed with the regular workers may be used as they are found or they may be compared to the work of some special test worker. It is valuable, when possible, to compare the times per unit to similar times at previous periods.

COMPARABILITY OF STANDARDS

Standards can be compared fairly from one establishment to another only when it is known that the work content is the same. In particular, engineered standards based on careful study in one company cannot properly be applied to another company where data based on engineering study are lacking. The standards, however, may be suggestive when the need for scrutiny is understood. Slight differences in practice make quite a difference in time standards. For example, it is possible to get standards for transcription of dictation on dictating machines but the rate of transcription would differ according to the difficulty of the material dictated. A transcriber in a typing pool might be quite unable to complete hightly technical dictation yet turn out adequate work on routine correspondence.

INCENTIVES

Incentives to meet or exceed standards of production may be either financial or nonfinancial. Usual financial incentives are regular or special salary increases and promotions. When a person is doing outstanding work but is not qualified for promotion, payment above the maximum rate for the grade is justified. Outstanding production may also be rewarded by a cash award or a merit award.

A bonus payment system is another method of supplying financial incentive. If payment by results is undertaken, however, careful preliminary work is necessary. Rates must be set with great care, and must not subsequently be changed unless the system is materially altered, as by the installation of a new machine. It is exceedingly damaging to morale to cut bonus rates or time allowances once they have been established.

Many standards have been worked out as a basis for a bonus system, or payment by results. There have been some successful experiments and some failures with this idea. Typical of success is the experience of one large company which installed the bonus system in a number of departments. The result was that it decreased the staff in these departments by one-third, increased the average salaries of those remaining by 15 or 20 per cent, and made a saving of about one-quarter in total salaries for the sections of the work involved.

A bonus system may also provide an incentive for accuracy. A worker, who before the inauguration of a bonus system was inaccurate and uninterested in his work, afterwards acquired a real interest and reduced his errors 50 per cent while increasing his production. This is a rather typical case in which the bonus supplied the incentive.

Many of the results of a properly administered bonus system can be obtained by rigorously setting standards and by making proper use of other incentives to encourage the putting forth of best efforts on the part of workers.

One of the most important nonfinancial incentives is the clear answer to the very human question, "How am I doing?" Robert B. Wolf, who pioneered in developing nonfinancial incentives, found this out early in this century.

Wolf was employed as the general manager of a paper mill He worked out a bonus system, but his board did not like such new-fangled ideas Wolf then decided to post daily the production turned out on each of the eight large paper-making machines Production doubled in a few weeks' The men took such a pride in rivalry that Wolf actually was afraid they would harm each other. So he turned his attention to competition to improve quality, not output He learned that following through on the men's own suggestions produced additional results.

Wolf concluded after this experience that most of the gain that normally results from a bonus method of payment is owing to the fact that the worker knows what his production is. To work without knowing how much you have produced, he reasoned, is like playing a game without rules and a score. Everyone knows the difference between batting a ball over a tennis net or playing a regular game. In later years, Wolf took advantage of new methods for rapid assembly of data. On a construction job he had each day's production and costs per man summarized immediately and made available when the shift reported to work the next morning. The result was that the cost of construction fell greatly below the estimates. When the men knew what they were doing, they went ahead and were able to improve their score progressively.

The authors have repeatedly seen the effect of posting or circulating among clerical workers the records of their production and accuracy. When a number of persons is engaged on a similar job, the place at the top of the list for accuracy and speed is apparently envied by others.

Another form of recognition is praise—the supervisor's "Well done!" Most of us get a glow of satisfaction from well-earned praise. We also like the respect of our peers.

The incentive to accomplish something unusual will bring forth

exceptional records even on the part of average workers, provided they are really interested in so doing. Rewarding the workers for exceptionally good results, either by salary adjustment or by appropriate praise and recognition, will help them to continue to exceed the standard.

In itself, measured production has the advantage that good work shows up clearly. In one company comment was made to a supervisor by two other supervisors that a certain young man looked particularly lazy, but he proved from his records that this worker did about 30 per cent better than the average worker with about the same accuracy. He worked with ease because he knew how to make his effort count. In the absence of records, he would have been thought lazy and would not have received the promotion accorded to him

In a posting section of a large accounting department where the workers were on a bonus, the accountant, Mr Vaidya, wondered why one worker, Prem, accomplished so much more than his associates. Mr. Vaidya watched Prem and the other workers. The others found a card number on the sheet from which they were posting, pulled out the card from the drawer in which it was filed numerically, made the notation, and refiled the card, then looked for the next number. Prem, after making the notation, moved his blotter down to the next number on the sheet, which he bore in mind while refiling the finished card. He did not know he had a better method, nor did the workers around him. When Mr Vaidya taught them Prem's practice, they, too, got more done per day

The illustration just given shows the gain to be made by studying minute details of a job. Some students of scientific management advocate finding and teaching the "one best way." This activity has a field, but the authors believe that it is limited in two important directions. First, even in well-run enterprises there are so many easily discovered wastes of time and energy that attention should be concentrated on eliminating most of these before resorting to the refinements that have been applied through engineering. Undoubtedly the results of time and motion study are rewarding, but it is more to the point to eliminate unnecessary steps altogether than to teach workers how to perform the motions for the present steps in the best possible manner. Second, the "one best way" does not give sufficient weight to individual differences in rhythm and method of work, which, according to some industrial psychologists, may be important factors in the well-being of the workers. Once interest is thoroughly aroused, they suggest many improvements. People often know how to do better than they actually do, but the repressive power of older methods of supervision does not draw suggestions from them. Definite records are at the basis of all standards. If you do not now

have time to develop standards for your department, at least see that simple records of performance are made. Keep them for possible future analysis and for comparison from period to period. It is not necessary to jump from no standards to the most scientific. You can start with crude ones and gradually increase their value.

Standards of Quality

A standard under modern scientific management is simply a carefully thought out method of performing a function ... The idea of perfection is not involved in standardization The standard method of doing anything is simply the best method that can be devised at the time the standard is drawn All that is demanded under modern scientific management is that a proposed change in a standard must be scrutinized as carefully as the standard was scrutinized prior to its adoption, and further that this work be done by experts as competent to do it as were those who originally framed the standard Standards adopted and protected in this way produce the best that is known at any one time Standardization practised in this way' is a constant invitation to experimentation and improvement

> Morris Llewellyn Cooke *Academic and Industrial Efficiency* Bulletin 5 The Carnegie Foundation for the Advancement of Teaching, 1910, page 6.

To be secure and effective in his work the individual must have a sense of dedication, a clear view of the goals to be achieved, and satisfactory measures of his progress toward them

> O A Ohmann, "The Leader and the Led", *Personnel,* November-December 1958, page 14

STANDARDS OF QUALITY

Work to be well done must meet standards of quality as well as volume. The quality of a product depends on the quality of the materials and of the process as well as the proper completion at each stage by the various workers. This is true whether we speak of an electronic device, a pocket watch, or a contract of sale. To be satisfactory, each should meet proper specifications before it is issued as complete.

The setting of specifications is an important part of quality. The setting of performance standards with respect to quality is another.

In manufacturing, the tolerances for quality of product are usually set with care and a procedure is set up to cause the rejection of products which do not meet those tolerances. A "tolerance" describes the limits within which work is acceptable. A procedure is then set up to cause the rejection of any item of the product which does not meet those limits. Sieves, calipers, and all manner of devices are employed to reject unacceptable items, some simple, some complex, some automatic, others flexible.

A change in the process often results in either a better or a cheaper product or both. In any case, new tolerances are set.

The tremendous expansion of scientific apparatus has brought about new and sometimes spectacular problems of quality. The launching of satellites, for example, has failed or been delayed through the failure of some small piece in the myriads of parts, almost all of which must function well for the satellite to perform as planned. New standards of quality have been developed. The idea of *no errors* or defects has caught on. The goal of many makers of fine scientific instruments is to prevent all faulty equipment from getting out—to achieve perfection as a record.

The balance between cost and quality is always of importance, particularly on competitive products. Many ideas for reducing cost and improving quality, or both, come from the methods engineer. Sometimes stricter requirements in one part of the process decrease the overall costs as, for instance, when machining parts to a finer tolerance enables quicker and better assembly into the finished product.

CONTROL OF QUALITY

For the control of quality, some requirements must be made and met.

1. Specifications for an acceptable result must be set. If the product is a package of green writing paper, specifications must be set for the precise color, size, thickness, opacity, smoothness, and toughness for erasures. Tolerances for the length of each sheet might be not more than $14\frac{1}{8}$ inches nor less than $13\frac{15}{16}$ inches.

2. The critical points in the operation or process must be identified to make sure that up to that point the paper is behaving as it should. For example, to get paper of the desired thickness the tension on the rollers at certain points must be neither too tight nor too loose.

3. The product must be subject to tests to see if it meets the criteria established. For example, the color is compared to a standard to make sure that it is neither too yellow or too blue. This may be done at a given

stage or at the end of the process or both.

4. The finished product (or $\frac{1}{10}$th or $\frac{1}{25}$th or $\frac{1}{50}$th or whatever fraction of the product) is inspected to ensure that it meets the standards in all respects.

The same requirements apply to nonmanufacturing work, for example, office work. Here also the tolerances should be set, the critical control points determined, the tests made, and the final inspection completed. It may be desired, for example, to inspect each purchase order to see whether it was completed correctly and on time. It may be sufficient to test-check one package of paper in a gross or ten purchase orders per week.

Test-checking is usually done in the department. It is useful when a complete check is not required, as when the level of quality is known to be high or the consequences of faulty work are not serious.

A more formal type of test-checking is *statistical sampling* for quality control. In this case the sampling is done through a random system. It is assumed that verification of a sample will show whether quality is being maintained in the whole batch, that is, that the work meets the acceptable standards which have been set. Let us suppose that one error in 100 cases is acceptable, the daily volume is about 3000 cases, and 10% sample is sufficient. A sample of 300 cases is analyzed at random. If there are not more than 3 errors, the whole 3000 cases are assumed to be acceptable.

Statistical sampling is not worthwhile, nor is other detailed checking, if the consequences of errors getting through undetected are not serious. Sampling, moreover, is not needed if the accuracy of the work has been well established, as when the errors shown up through the 10 per cent check or audit for a reasonable period have been considerably less than the number acceptable under the standard. In that case, sampling at infrequent intervals may be sufficient. On the other hand, if the consequences of error are truly serious, it would not be enough to rely on statistical sampling. Moreover, the supervisor should not attempt to set up a system by himself unless he has mastered the fundamental principle of sampling, namely, that the sample must be large enough to be a statistically significant portion of the whole batch. He can learn this principle and its application in a good text book on business statistics.

The supervisor should be careful to select the right place in the routine for taking the sample. This is a spot where the flow of work is normal and where the removal of a sample will interfere with that work flow as little as possible. If the analysis of the sample can safely be made after the other cases have been released, then the sample-picking can take place close to the end of the routine.

An excellent way to control quality is through balanced operations, when a mathematical balance of totals is obtained. Balancing can be readily attained in many machine operations as well as in accounting and bookkeeping operations, whether on machines or not. When an automatic check can be obtained through balancing of figures, it is not necessary to check each component. If the totals fail to balance, then the difficulty is run down point by point.

Inspection is a general term for review of work to see whether it is in accord with the standards set. It may be very broad or fairly detailed. Inspection may be made, for example, by an opinion poll of customers to see how satisfied they are with the company's products or services. It may be made through evaluation of complaints made or of field office reactions. It may also entail a systematic check of each item produced.

Review is a general going over of the work to be sure that in the main and in important matters it is correct, but with little attention to details. Review is often performed on clerical work by a senior person before a payment check, a letter, or other end product of the clerical routine is released.

Audit is the checking of detail of all or part of the work after the act has been performed and when it is usually too late to prevent unwanted results. The primary purpose of auditing is to prevent undesirable practices and irregularities and to catch fraud. Auditing is usually performed by specially trained persons either in a detached unit or outside the organization.

Occasional or periodic *review of the system* is particularly useful in obtaining a fresh look. It may locate the sources and causes of errors or failure to maintain quality and also set broad methods to stop these failures from occurring in the future.

The customary method of verifying office work is through detailed checking, a subject dealt with below.

QUALITY STANDARDS IN OFFICE WORK

In office work there is still room for pioneering in establishing standards of quality.

Accuracy is of great importance. Judgment, naturally, is the prime consideration in high level work. In most clerical operations, however, the basis for decision is reduced to rules. Judgment is needed to decide what to do when the rules do not fit a particular case. However, finding that the rules do not fit is a matter of accuracy, not judgment, and normally requires about as much training and intelligence as are needed to

apply the rules when they do fit.

Much work which takes place in the office is governed by technical criteria which go beyond the application of rules. They involve analysis and the application of principles to particular situations. It has been found that general standards of quality may be developed and applied to many such jobs. For example, the underwriting of a mortgage loan on a building is definitely a high-level job involving the acceptance or rejection of a risk which involves lakhs of rupees. The underwriting of risks in casualty insurance is similar. For these jobs, standards can be worked out, even though one particular case may sometimes be much more involved than ten ordinary ones.

Neatness and appearance of work are important factors of quality in many office jobs. Letters, for instance, will be judged as much by their pleasing look as by the correctness of spelling, and even more by their meaning and their tactful statements. Thus judgment on the part of the writer as to what to say must be reinforced by accurate typing, and rendered attractive by neat appearance and spacing. The importance of using common sense is illustrated in this story.

A stenographer typed a letter to a customer, referring him to a branch office in his town. He looked up the address of the branch office, and gave it as Main Post Office, Box 24, Poona. The supervisor saw the incongruity, and asked the man to read his letter. After reading it twice, he still saw nothing wrong. Finally the supervisor said, "Where do you want the man to go to look for our company? To an 8 by 10 inch space in the Post Office ?"

ACCURACY

If one could assume that persons would almost invariably do correctly the work which they undertook, work could be greatly simplified. Planning would be much simpler, for errors are one of the major difficulties. Errors may be divided roughly into three classes according to whose fault they are *usually considered* to be : (1) those wholly the fault of the worker; (2) those partly the fault of the worker; and (3) those outside the control of the worker. Supervisors in the authors' discussion groups mentioned a large number of causes of errors and classified them into the following three groups. This classification indicates where the blame for the error is likely to be placed on first consideration. The discussions brought out the fact that the supervisor may rightly be held responsible for the errors of his department even though some individual may be to blame for any particular one.

CAUSES USUALLY CONSIDERED THE FAULT OF THE WORKER

Carelessness.
Bad health or uncorrected impairment of eyesight or hearing
Outside distraction, both in and after office hours.
Mind wandering.
Ignorance and stupidity.
Nervousness, worry, overcautiousness, or fear of asking questions
Lack of confidence.
Poor memory.
Lack of interest.
Mistakes in judgment.

CAUSES USUALLY CONSIDERED PARTLY THE FAULT OF THE WORKER

Misinterpretation of instructions.
Faulty, insufficient, or vague instructions
Interruptions.
Lack of knowledge.
Previous records incorrect.
Conflicting records.
Bias in the material, causing errors to carry through
Forms improperly designed (as columns in reverse order).
Messages over telephone.
Strain or pressure.
Too much speed

CAUSES USUALLY CONSIDERED NOT THE FAULT OF THE WORKER

Too much work or not enough.
Pressure.
Too much variety or not enough.
Bad placement—too much ability or not enough.
Bad working conditions, noise, poor lighting, poor ventilation, work
bench or desk too small.
Bad system.
Machines out of order.
Faulty working material, such as bad handwriting, bad typing, blurred
figures, mutilated material, and so forth.
Incorrect training or incomplete or incorrect instructions, especially
during change of routine.
Absentees and lack of understudies
Nagging on the part of the supervisor.
Monotony.

If one stops to consider further the factors leading to the errors usually considered the fault of the worker, one will find that many of them may be at least partly within the control of the supervisor and can be appreciably reduced by better supervision. Carelessness may be the result of a lack of interest in the work, failure to realize what an error will mean to the company, or many other reasons. The lack of interest should be a challenge to the supervisor to arouse interest, possibly by teaching the individual the relation of his task to the business as a whole, by shifting him to other work or broadening his job to avoid monotony, by overcoming a feeling on his part that good work is not appreciated or rewarded, or by other means. An error made because of outside distractions after office hours may be the fault of the supervisor for having failed to arouse the worker's interest or for having discouraged it so that he turned to other things to occupy his mind.

The supervisor of one of the claim departments of a large casualty company in discussing errors said, "You should never accept carelessness as a cause of errors It doesn't explain a thing to us if our inspectors report that the operator of an elevator at the time of an accident was 'careless.' We won't accept that report. We want to know just what it was that he apparently did wrong and the reason for such wrong action—had he been drinking, or had he been improperly instructed, or what? Carelessness in and of itself does not cause errors though it often* leads to actions which will cause them. We put safety devices on elevators Don't we need something similar in work?"

Nervousness may be induced by supervisory handling. As one clerk said, "You know, right after you have been called down for making an error you often are so nervous that you can't do the other work accurately."

The state of health of the workers in a department often is materially affected by the quality of supervision. Some supervisors, by tactless and inconsiderate handling, actually impair the mental and physical health of those under them; others seem to make it easier for persons to do good work in spite of poor health.

A poor memory may be the worker's fault—or the fault of his schooling or of his ancestors—but even this factor is partly under the control of the supervisor. He should not expect a junior to have as fine a memory as a person in an important position, and he should arrange the work so that it does not call for too much reliance on memory. If he arouses the worker's interest in the work and in remembering necessary rules or procedures, the number of mistakes because of poor memory will decline. Memory is improved if in learning a fact one consciously de-

termines whether one wishes to remember it for a long or for a short time.

Mistakes in judgment are closely related to unskillful or inadequate training. Even apparent stupidity and lack of confidence may be largely the result of poor training or improper placement.

On the whole, there are few instances when an error is entirely the worker's fault. It is sound to hold the supervisor responsible for any errors made by those under him.

The supervisor may find most difficulty in improving things that are not the worker's fault. For instance, errors made by previous departments or poorly prepared requests or records coming to his department may make it difficult to turn out accurate work. In such cases, the supervisor may have to refer to his superiors for a better integration of the different departments.

An advantage of a bonus with a penalty for errors is that the supervisor is continually prodded by his workers to cut down the causes of error which are out of their immediate control. For instance, errors in previous departments or poorly prepared statements or bad working conditions will be objected to more by workers whose error records are of real importance to them, either financially or from the point of view of their morale, than by employees who either do not know of the errors they are making or do not care.

It is sometimes said that the proportion of errors depends upon the speed with which the work is done. However, accuracy seems to improve with an increase of speed up to a certain point, and then to decline with any further speeding. When there is too little work, the workers tend to daydream and to lack the attention required for working at a somewhat higher speed.

STANDARDS OF ERRORS

It is difficult to get any standards of accuracy which may be applied from one company to another, since the content of the work varies so much. The "standards" dealt with here are not the ideal of perfection, but are only normals which workers may reasonably be expected to reach. Workers falling below them should be trained or transferred.

The task of setting a standard begins with an analysis of the chances of making errors. In many clerical operations, a standard of no more than 0·1 per cent of the items wrong appears to be obtainable, but is reached by only the more accurate groups. This standard is roughly in accord with the ideas of many, but not all, of the persons in the supervisory groups to which a practical problem, similar to the following, was presented.

You might try for yourself to determine the question of how many times in a thousand computations it would be reasonable to expect a mistake in the following work:

A policyholder applies for a loan on his policy. The loan value is Rs 680.58 Against this, there is a previous loan of Rs 525.00, interest of Rs 31.50, and a premium of Rs. 103.94. The charges including the previous loan have to be added up and deducted from the credit, which is the amount of the loan value, in order to determine the net amount available to the policyholder, that is, the check to balance For the sake of simplicity, it is assumed that the figures given are correct, that the clerk is trained, that an adding machine may be used, and that the work will be checked later. The following statement is complete, the figure Rs. 20 14 being the one to be determined

		Rs. 680.58
New loan		Rs. 680.58
Previous loan	Rs. 525.00	
Loan interest	31.50	
Premium	103 94	
Check to balance	20.14	
Total	Rs. 680.58	Rs. 680.58

A wide range of opinion was given as to how many errors should occur in determining the balancing figure. Usually after some discussion most of those present felt that about 0·1 to 0·2 per cent would be a reasonable expectation, that is, 1 or 2 per thousand. This is good actual performance in offices where errors are recorded and analyzed.

REDUCTION IN ERRORS

Improving accuracy requires good recording and analysis of errors. The recording should be translated into an error rate. Obviously, a quick worker has more opportunities for error than does a slower one. It is therefore necessary to analyze opportunities for error, or the number of items on which an error may be made. In the typing of a card, for example, the name may be taken as one item and the address as another. Of course, more than one mistake could be made in copying a name but it is found to be reasonable to consider a name as one unit.

The technique of recording and reducing errors varies according to the situation. Often a checker or regular examiner of work keeps records of the number of errors made both daily and monthly by each person whose work he checks. These records to be of value, however, should be combined with the record of the total work performed, and the rates of error computed.

Sometimes error records are made up, but their chief value is lost because the supervisor keeps them to himself without discussing them with the persons concerned. It is important to report them back to the individual for correction if possible or at any rate for his information. Frequently his pride can be aroused.

A clerk was making so many errors that he was a great problem. The supervisor decided to send back to him every single error, no matter how small, and to insist that he make the correction himself. As a result, the clerk became interested in accuracy, and after a time he became so competent that when the company established a new division he was made head of it.

Much harm is done by the feeling that it is human and therefore excusable to make errors. Perfection may not be obtainable, but a high level of accuracy should be sought by arousing the interest of the employees and kindling their imagination.

An illustration of the value of imagination is given in the *Reader's Digest* for November 1932.

The King of England gets a fancy edition of the London *Daily Mail* every morning It is the first copy run off the presses and is printed on the most expensive glazed paper A London reporter visiting America explained it

"Lord Rothermere wanted to boast that his paper was absolutely errorless. He offered bonuses, prizes, rewards, and various other inducements, including dismissal of everyone responsible for error, but still his staff could not bat 100% perfect

"Then he suddenly got a new idea. He called his staff together and said. 'Gentlemen, hereafter we will print the first copy of *The Mail* on a special paper and send it to His Majesty. That will be the royal copy, and the million and a half other copies will be exactly like it, except for the printing paper And, gentlemen, His Majesty's royal copy must be errorless'"

'Most certainly Sir.' agreed the staff in awe.

"They tell you in Fleet Street that errors dropped 90% in *The Mail* and that Rothermere comes within a hair's breadth of making good his boast of accuracy."

Sometimes an explanation of the *consequences* of a particular type of error will curtail it. Errors leading to the wrong disbursement of money are very well understood by clerks doing the work. Other mistakes may be just as costly and inconvenient, even when apparently they do not involve an outlay. A slight error, such as the wrong state in a customer's address, may lead to confusion in several departments and take a long time to straighten out.

A good way of controlling errors is to have the person catching the error make out an error slip. This is especially valuable when the types

of errors are to be analyzed with a view to determining the cause. The nature of the mistake should be described, and the slip should be sent back to the maker to assign a reason and, if possible, to suggest how a similar mistake can be avoided in the future. A constructive emphasis is thus obtained. Such a slip is illustrated in Figure 5. It is well to set a definite time period within which a worker may make an appeal from a charge of error.

This slip may be used for occasional studies of all errors within a department or for only the errors made in one department and found in another. To make a study within the department, every person likely to find an error should be supplied with the slips, and all errors should be reported at least weekly for a period of time. The slips should then

ERROR SLIP

Date:	Identification of Material: (e.g. Policy Number.)	Department Finding Error.
July 20,1959	*690,137*	*Audit*

Person Finding Error:
Name.   Position:—1st Checker( ).   Verifier( ). User(X).
a. Smith

Person Charged with Making the Error:
Name: Department. (If not same as finding department.)
J. Jones   *Renewal*

Nature of Error:
Commission rate marked wrong.

Apparent Cause: (To be stated by person charged with the error.)
Notation on card not clear due to erasure by scraper.

How Similar Errors Might be Prevented: (To be suggested by person charged with the error.)
Do not permit use of knives or scrapers on cards. Use fine pens and insist on clear writing.

Figure 5. An Error Analysis Slip

be collected at the end of the week and analyzed. A simple method of doing this is to list the types of errors down the side of a sheet and place the names of the clerks across the top. Tally marks can then be entered to show what errors of each type are made by individuals. The supervisor will see where to lay his emphasis in increasing accuracy, both as to the type of error to guard against and as to the persons with whom to work.

Turning people's attention to error prevention is important. The types of errors not predominantly the fault of the person making them can be remedied only by analysis. People cooperate well in a campaign for reduction if they feel that the effort is remedial and not merely to censure a few individuals. The emphasis should be on prevention and training rather than on placing blame.

At times employees feel that a person investigating errors is leveling a personal criticism against them. This can be minimized or avoided if the supervisor is impartial in taking up errors, investigating those of every one; and also if he mentions to the employees a number of causes or shows them a list, such as the one given previously, which clearly indicates causes outside the immediate responsibility of the individual.

Another way of handling errors is by reporting them to a central authority. In one company, all errors involving the incorrect disbursement of money were reported to an accountant. He was supposed to call in the systems man if he found that the system was apparently at fault. Again, all mistakes discovered in the statistical department were supposed to be reported back to the department where they originated, but the department head ran into various difficulties by so doing. Some of his colleagues took the attitude that mistakes are human and could not be avoided. All errors found in the work of other departments were therefore referred to a special investigator. He went back to the departments and found out the causes, which in many instances were remedied. A scheme of reporting apparently breaks down if the handling is too severe. Unless the emphasis is laid on prevention rather than blame, people will not report impartially on one another.

If you happen to be the head of an error-finding department, realize that you are in a position where great tact is required. Let your reports of errors be records of actual facts. You need not express a judgment concerning the work of any department, but give fairly the actual number and percentages of errors found. Try to help the supervisor concerned to locate and remove the cause of the most frequent types.

A group of supervisors where a central reporting system was in effect discussed what types of errors should be so reported.

One opinion was that minor errors perhaps should be reported back in detail to the department from which they originate, but that only a total should be given to the central authority, but others felt that it is fairer to make it compulsory to report all errors centrally. It was brought out that some departments have more chances of errors than others, and it was felt that unfair comparisons would be made between departments by the central authority if all errors were reported. It was stated that it is not fair to give only the number of errors without giving at least an approximate figure for

the exposure to errors Error rates are important. It was felt that the central authority would not know the reasons why certain errors would occur and that a department might be open to unfair criticism Others in the group said that only if the central authority knew about the errors could it become aware of the reasons why they might be excusable.

The discussion illustrates the point that individual workers, department heads, and executives all need to be educated on errors and their control.

Several groups have agreed emphatically that mistakes found in one department but committed in another should be reported back in detail so that the causes can be sought. This rule also applies when the company has branch offices. One company writes across the error slip, when the errors exceed a certain percentage, "We expect to hear from you by return mail." An extra copy of letters or forms reporting branch office errors are in some instances kept for the use of the traveling auditor. When he is about to make an inspection of the branch, he examines these letters, and at the branch he goes over the system or the work of individuals to see what the causes for repeated mistakes are.

CHECKING

The customary method of determining the accuracy of an operation is checking, a detailed verification before the work is passed along as completed.

A group of supervisors gave the following answers to the question "Why is work checked?"
To cut down errors
To keep good will of public
To cut expense.
To test staff for performance
To insure equity.
To catch errors in time to correct them easily—to avoid trouble in balancing
To avert reprimand or executive displeasure
To prevent fraud.
Because an officer will look at it
To be sure payments are correct.
To uphold prestige of division or company
To maintain confidence of field staff and others

Why is work checked? Is checking necessary? If so, at what point and in what manner should it occur?

Work is checked mainly to increase the probability that it is correct and to induce greater confidence in it. As a general rule, work should be checked when an error will seriously delay the work, when it will affect the customer or the public adversely, when it might be costly, or when absence of checking would weaken morale. It is particularly important for long-term contracts, making of scientific apparatus, and other matters where mistakes are likely to cause loss of life or of substantial sums of money.

Executives are impatient of a clerical error because it gives them a sense of insecurity. Some checking steps are put in to avoid executive displeasure rather than to satisfy any important need. For instance, in a certain company all sales contracts went to the president for signature. Before they were sent to him, each detail which he could verify from his casual inspection was carefully triple checked. However, important points which he could not easily notice were not gone into with thoroughness by the checkers. If he detected a slight error, they were sure to hear about it, whereas he had to accept the judgment of his subordinates on matters of importance. Extra checking steps are frequently added by an individual on his own initiative to avert another reprimand, and the supervisor may not know they exist.

Each checking step should be analyzed with care to see whether or not it is necessary and worth the cost. A well-known manufacturing company came to the conclusion that in much clerical work "the errors discovered and the savings accomplished did not compensate for the trouble and expense of performing the checking work," except for a very few operations. "The responsibility falls completely on the persons who do the various operations as their primary tasks. It is true that some mistakes are encountered, but it is always questionable how many of these might have been prevented by the checking system. Certainly not all."

Whether a worker will be more or less accurate if his work is checked depends to a large extent upon the person concerned. If a worker has a fair degree of interest and his work is not checked in detail, but possibly reviewed or test-checked, it will probably be more accurate than that of a person who knows that a checker will go over what he does. However, the final result may not be as accurate as with a doer and a checker. Therefore, in planning the work, one must decide whether the errors which might result from not checking would be sufficiently important to make a checking step desirable.

The insertion of more than one check should be watched with care, especially in clerical work. First of all, one should know how many times and at what points checking occurs. Extra checks apparently

reduce the accuracy of the work in some cases. There is a subconscious, if not a conscious, reaction on the part of the first checker that the second checker will catch any inaccuracies, and vice versa. Although in one company five different persons were supposed to see that a simple balanced statement, such as the one given earlier, was correct, some errors were getting out. None of the five persons was taking his responsibility seriously. As soon as the checking steps were cut down so that only two persons went over the work and initialed the statement as correct, the mistakes became very few and far between.

The responsibility for checking should be absolutely definite. "I just look over it to see if it looks all right" is a comment frequently heard. If this is a review, and the persons doing the work understand that they are the responsible parties, there is no objection; but when the workers feel that the supervisor or someone else is taking the final responsibility, their own feeling of pride in their work is usually weakened. On the other hand, pride leads some individuals to want their supervisors to see that they are doing their work well and they may relax their care if no inspection is made.

If checking is done, insist on a high standard of accuracy on checked work. Much checking of work is waste effort, in a sense, since if 1 per cent of the items is wrong in the first place, 99 per cent are not in need of checking. A checker is paid to be sure that the few errors made by a skilled doer will not leave the department and to give the management confidence that the work is correct.

A checker who is himself inaccurate should not be tolerated. Either he should be trained to be accurate, or he should be transferred to work which he can accomplish effectively.

The actual effect of checking is shown by what would happen theoretically if a doer and a checker each have an accuracy of only 99 per cent, if they work independently, and if their errors are not correlated. Under these conditions, out of 10,000 cases done by the doer, 1 per cent, or 100, would be wrong, and 9900 would be correct. The checker, therefore, would have only 100 incorrect cases which he might catch. If he received a figure differing from that of the doer, it is assumed that he would check his work and determine whether he or the doer had made an error and that he would not change a correct figure into an incorrect one. Of the 100 errors which the checker himself would make with his 99 per cent accuracy, 99 of them, according to the theory of probability, would be among the 9900 cases which the doer had done correctly. Only once in the 10,000 cases would the doer and checker be expected to make an error on the same case. Since they may make different errors, the number of mistakes to be expected from a doer and checker

with the rather high error ratio of 1 per cent is under 1 in 10,000 items.

Similar computations show that if the doer and the checker are each 99.8 per cent accurate, there should be not more than 4 errors in 1,000,000 items.

Only 1 error in 1,000,000 items would be obtained theoretically from one doer and two checkers, each of whom was only 99 per accurate (0.01 X 0.01 X 0.01).

Actually the theoretical conditions of independent work and nonrelated errors are hard to obtain, and the number of errors passing both doer and checker is often higher than indicated in the example. Whenever it is possible to arrange the work so that the checking is indeed independent, the chance of the checker's being misled by the error of the doer is greatly lessened. It is often quite practicable to have the checker do the work independently from the doer and to compare the final results.

There is a distinct tendency for the checker to repeat the error of the doer.

Some years ago the accounts of one of the colleges at Oxford, England, could not be balanced by the regular accountants. Finally, outside auditors were called in to help, and for some time they could not get a balance. Eventually it was discovered that a date, abbreviated in the English·fashion as, say, 5/8/11 for the fifth of August, 1911, had appeared at the top of a column of figures and had been considered to stand for 5 pounds, 8 shillings, 11 pence, which is written the same way.

In another case a group of bookkeepers in a dry-goods house worked many hours trying to find an error which was due to a fly that had been caught between the pages of the ledger and thoroughly squashed, leaving one of his legs behind when his body was moved away. The leg remained in such a position that it appeared to add the figure one in front of some other figures. Several people tried to balance the books before the leg was discovered.

Occasionally, one will find a set of operations which are thoroughly checked in certain steps but in which one of the most important steps is not checked.

In one life insurance company the amount of loan which the policyholder secured was very carefully computed, all the records were very carefully checked, the computations were made independently, and the two results compared. Finally, as one of the last steps before the policy was mailed back to the policyholder, a rubber stamp was placed on the policy and the amount of the loan entered However, this step, which was the evidence of the amount of the loan, was never checked.

The same item is often checked in several different departments, merely because somebody once found an error. No one would want to run the chance of being blamed for that error in the future. Thus orders are given by various supervisors to check the item routinely. It would be far preferable to try to effect a system under which errors leaving the first department would be so rare that checking would be superfluous. One reason for errors is that workers in the first department do not realize the use to which their data are put subsequently. They therefore are not as careful as they might be.

The position of checking steps should be carefully considered. They should normally be arranged to avoid extra handling of papers. Usually one worker should perform several operations on a case; then he should pass it to the checker who will check all these and, if practicable, do some additional steps. The checking steps should normally follow promptly after the work is done. Once checked, the work usually should not be rechecked, though it may be reviewed.

It is good practice to have both the doer and the checker of important aspects of the work initial as a token of assumption of responsibility. Commonly it is found that workers exercise greater care when they initial.

In order to determine who has initialed, keep a list of the persons doing the initialing. Each person should put after his typewritten name a sample of his initials and of his signature. The list should be prepared regularly once a year and the names of new persons should be added as they begin initialing or signing. In a small company it may be quite practicable to use a single initial, provided it is distinctive and not likely to be confused with other persons in the company or department. Initials should, of course, be legible.

Unless it is quite evident who has done the checking, an initial, and not a tick mark, should be used. Initials sometimes are placed too freely, each column or each item being initialed on a sheet when one set of initials, with possibly a bracket, would cover the whole material.

A fairly frequent malpractice in regard to checking is to initial the case before it is finished. Sometimes this is due to the design of the forms so that it is inconvenient to go back and initial in the place provided; therefore, the workers take the chance of initialing the case when partly checked and, if incorrect, they intend to go back and erase their initials. Sometimes it is because of badly arranged working material and the desire to reach out the hands for the next case before the first one is finished.

Sometimes such a premium is set upon definite indication of checking that a person may even sign as doer and checker. When a certain worker

finished his work on a sheet, he initialed it as doer, put down his pen, took up another one and with green ink initialed beside the first entry but in the box for "Checker." This is quite different from doing a batch of work and some time later checking it, thus allowing for a change of thought and the possibility of really catching errors made the first time.

Adding and calculating machine errors may be caught quickly if more than one of these machines is available. One organization labels its machines, "This machine for doing" or "This machine for checking."

Call-checking, where one person "calls" items to another clerk, is prevalent in some companies. As one supervisor said, "When the year-end figures are being prepared, lung power is needed." Another stated, "Our division is just like a bird room with all the birds singing." In another place, the daily routine provided for the calling of figures from a sheet to a girl at a card cabinet fifteen or eighteen feet away. The accuracy obtained by such a method is decidedly dubious. It is too easy for the listener to let his mind wander for an instant and thus miss a discrepancy. Moreover, two persons' time is consumed. With a sight-check, one individual may take a longer period, but usually he will take less than twice as long as with a call-check. It is the authors' opinion that an individual sight-check is faster, more accurate, and less disturbing, except under unusual circumstances, such as when a number of different records must be compared at the same time. Sometimes eye strain is a factor when the focus of the eye must be changed, especially when the books and sheets concerned are large.

The opinion expressed on the call-check by one man sums up a great many of the arguments against it:

I stopped call-checking because I told Mr Thomas I just couldn't do it any longer I was shushing the others all the time because they were making too much noise, and the strain of hearing was terrible If you get tired you can't stop and straighten up your desk, or something else, because you waste some other person's time.

You know, call-checking does not develop the most pleasant voice in the world. You just go, "One, two, five, rurrrrr. . ." And nobody cares what you are saying anyway. The voice gets monotonous and you get crosser and crosser until you can't be polite about anything If you don't hear what the caller said and ask him to repeat, he is likely to say, "It's———. Why don't you listen?" and after that you are not likely to ask again

One day somebody was calling to me and the big boss came around I was sound asleep. He said to one of the other men, "Wake that man up, please." That was Mr. Ramanathan: nice of him, wasn't it? You know he was a big man around here in those days. I was new on the job, too

We catch many more mistakes this way and do it much faster

Scheduling

A manager does not deal with men, money, and materials. He deals with
money and materials through men He does not deal with schedules, costs,
quality, volume, and people. He reaches his objectives through people
His job is not a number of major activities, one of which is human relations.
His job is a human relations job that functions through several major activities.
Laurence A Appley, *Management in Action,* American Management Association
1956, page 19

IMPORTANT FACTORS IN SCHEDULING

Trains not only are routed to go to certain towns, but schedules are
worked out also which show precisely when each stop should be made.
Most enterprises still have a great deal to do before they can rival the
precision of the railroads in adhering to a timetable.

Scheduling is the aspect of the management process which relates
to the timing of work. The schedule may be determined so that a definite
volume of work can be handled in a given time. Usually it provides that
not less than a given volume or percentage of the work is completed
within a time known to be reasonable. If that time span is long, controls
are maintained to show whether and when a stage of the work is finished
on schedule. Criteria are set in any case to show that not less than a
pre-determined amount is done in the time set. Arrangements are made to
control the delayed items, to take care of peak loads, and to make pro-
ductive use of waiting time and slack periods.

An important aspect of scheduling is speed in handling. Speed and
low cost go together when unnecessary steps are eliminated, when the

handling is restricted to as few persons as can effectively work on the process, when workers are well trained and inspired to do their work effectively, when the communication system and the method of distributing work cut down delays, and when the work is scheduled.

Such economical use of time is promoted when organization and supervision are good, quality and quantity of work are to a considerable extent standardized, and employees motivated. When such is the case, it is part of the management process to know how much work of what type· can be performed in how long.

The procedure for determining standards of speed for the individual parts of the work were described in a previous chapter. To arrange the rapid transit of work from the beginning to the end of a process, one must know the expected volume, the number and skills of the persons available to handle it, and the preferential order of doing the work, as well as the normal or the standard times for performance. The actual time taken on a job includes not only the time for performing the work itself but also the time the parts and incomplete job are traveling or waiting for attention. The authors have already commented on some delays caused by methods of subdividing and batching work. They have also prescribed some of the antidotes, namely, providing a clear track for normal work with special stations or procedures for unusual matters, the avoidance of too great subdivision of tasks, and provision for moving material rapidly from operation to operation and from department to department. Whenever possible, the flow of work should be so arranged that a person can get his work merely by reaching and taking it from an adjacent work station. For other types of material handling, regular means of transportation should be provided as already described.

Scheduling requires provision for *even flow of work* with proper batching, material handling, inspection, and control. A key to good scheduling is the *exception principle,* according to which any unusual item which might cause delay is shunted out of the "clear track". In this way, the volume of production is maintained. The clear track should be flanked with means to take care of the unusual item, such as an order requiring special materials, special attention or finishing, or the difficult case needing expert judgment. A special item which would defy routine handling may be the spice of life to the specialist who likes problems different from the "run of the mill."

Controls at critical points should show when the volume of work to be handled is climbing to the point where delays are likely.

Planning ahead is essential, for daily work, new work, rush work, and peak loads, as are occasioned when orders increase seasonally or in

response to a sales campaign. In such times, schedules of priorities are applied. Thus high priority work will come first and low priority work will be postponed until the peak is passed. Decisions must be made at the time of mounting volume when and whether to postpone vacations, work overtime and to employ temporary help, bring in experienced persons available part-time or make reassignments of staff to meet particular loads. Plans must also be made for performing other portions of the work.

Setting priorities requires criteria or special decisions on the precedence which some work takes over other work. In times of heavy volume, usually the important functions are attended to on schedule and the less important work handled as fill-in.

Just as activities are given priority ratings, so the tasks of each position should be graduated in importance. The person in the position then has guide lines as to which work he should perform. First should come those which must be followed through on a daily basis and as soon as received. Second would come less important phases of the main routine, to be done on a daily basis but not so closely linked with immediate production that they must be done in any given half hour. Third are those tasks which may be done as fill-in when the main routines are light. Often certain aspects of the work may be postponed without handicapping the work of others. Fourth are tasks performed once a week, once a month, or at less frequent intervals. Some of these must be done at a stipulated time; others may be done in whole or in part when work is slack.

Delays within departments are frequently caused by the difficulty of getting executive attention. In one company, a high executive must pass on appointments in branch offices. Delays were frequent until he set a regular time each day to review the applicants' papers.

One of the controls on scheduling is analysis of delayed items to find out the reasons for delay beyond a determined time. In a warehouse, for example, orders not filled in two working days may be inspected to ascertain the cause. If it is known that late orders will be examined, people will push them along except for justifiable reasons. Inspection, however, may reveal some fault in the inventory or indicate the increasing popularity of some items. In some kinds of work a job order or a route sheet is noted at certain stations by a check in the time column or by a time stamp. A red tag may be attached to a delayed item so that all can see it is overdue and should be expedited if possible. Sometimes the opposite procedure is followed: items requiring special handling are tagged "rush". In either case, care is exercised that the tagged items do not become a large proportion of the total volume.

Some types of backlogs are prevented by the establishment of the habit of clearing away things promptly once they amount to a reasonable batch. Take the filing of papers and cards. Where files are important, it is good practice for material ready to go to file to be sent at frequent intervals during the day, sorted into groups often, and refiled several times a day.

Central filing departments should have a definite schedule for service to other departments and should know which requests to answer first. Sometimes a supervisor who has his requests ready early gets his material ahead of others whose work may be more important. Since prompt service from the files is essential in many routines, the filing department should be set up to handle work quickly at the hours when requests are most frequent.

DAILY AND OTHER VARIATIONS

Daily and other variations in the volume of work are common. Attention to scheduling can often reduce the peaks and fill in the valleys.

Many industries are vitally connected with the mail, either incoming or outgoing, or both. If the incoming mail is important, the supervisor should cooperate in seeing that it arrives in the department early. In large centres it is generally received at the company considerably before the opening hour, and should already be distributed within the departments when the office opens. Some departments get one or more workers to come in half an hour or an hour early so that the others, when they arrive, can start promptly on the morning's work.

In departments closely dependent on the incoming mail, a number of persons should be put to work on the early steps of the routine in order to get the work flowing at once from step to step.

One well-organized department with which the authors are familiar handled its mail in a very expeditious fashion. The letters were delivered at five minutes of nine All the clerks in the division, of whatever skill, were put at the job of sorting out certain requests for loan from the other types of letters. They all wrote requisitions for data required for the later handlings. A special messenger took these requisitions to the card room in relays every few minutes. The card room cooperated by immediately pulling the cards as fast as the requisitions came, and sent them to the duplicating room for reproduction. After the special messenger had finished taking the requisitions to the card room, the copies began to flow back from the duplicating machine. He picked these up and took them to the loan department, where they were matched up with the request. Although the work had to pass through a number of hands in these early stages, the routine was so

carefully worked out that the day's work could be tackled half or three-quarters of an hour after the office opened. Meanwhile everyone had been engaged for a few minutes on the early steps. and later on related tasks

It is important to get mail finished promptly and to send it early to the mail room. The peak load in most mailing departments is unduly heavy simply because others do not appreciate the importance of a schedule. Departments where outgoing mail is heavy should have at least two periods a day for signing and collecting mail. Such an arrangement is obviously an advantage to the mail clerks. Furthermore, the post office handles mail more expeditiously if it arrives earlier in the afternoon. All post offices have a rush period for outgoing mail late in the day; moreover, late mail may lose a day in delivery. The post office furnishes mail train and plane schedules and works out the time the mail should be received at the post office in order to reach a destination in the shortest time.

Since some departments or individuals are closely related to incoming morning mail, and others with outgoing afternoon mail, some companies stagger the hours. Some mail clerks usually come in ahead of the regular hours, and others remain late. In one company, one group of the clerks in one department comes at eight-thirty, another at nine, and another at nine-thirty, and they leave at staggered hours in the afternoon. Before the system was inaugurated, the supervisors feared that the system would be subject to abuse through tardiness and less business-like procedure, but the results have been excellent. A better start was made on the morning's work and there was consequently less overtime in the afternoon. Moreover, the injustice of having certain clerks always staying late was remedied by having them come in at a later hour.

Sometimes the number of machines available for handling the work may be inadequate to meet heavy loads. In such cases machine time must be kept at the maximum through providing relief operators for rest periods and lunch time and before and after regular shifts.

To meet the daily peak, workers may handle tasks of one type in the morning and of another in the afternoon. This may necessitate a transfer of workers from one department to another. People who have cleaned up all their work the day before frequently lose much time early in the morning while they wait for the day's work to get to their desks. This is especially true of departments where there is pressure to get the mail out promptly, hence little if any is left over for the next morning. Often nothing worthwhile is accomplished, especially when the period of waiting for the mail is short. However, the aggregate loss of time in a department, resulting from ten or fifteen minutes of misspent time

daily, is considerable. The scheduling of tasks before, during, and the main duties of the day is important.

Some people start to work in the morning fresh and ready to on the most important tasks of the day. To them, starting on rc details is painful, since their energies are directed toward real ~ plishment. On the other hand, many people are dull and sluggish · morning, even when they are in good health and have had enough they seem to need a warming-up period during which only easy can be readily accomplished. They do better later in the day when early starters may be tried. The wise supervisor will study the mental physical characteristics of his clerks, so that he may aim to fit the t~ their daily cycle of energy, particularly in the early morning period.

Special consideration is needed for Monday morning. The "i Monday" feeling, which so many persons experience, is sometimes result of strenuous weekend activities, but even after a quiet and res weekend many people suffer from a let-down feeling. Apparently · ι is an inertia to be overcome before beginning work again. Mι tasks, therefore, should be well laid out in advance and should be quiet and as routine in nature as the work permits. Unfortuna Monday is usually a heavy day for departments dependent on the · for a large part of their work. Organizing to meet the peak ι ι is therefore needed. One company starts an hour early Monday mι · others work later Monday night. One large department stops an hour early two days in the middle of the week to compensate overtime on other days.

When a peak tends to occur each week, the supervisor can ι it out if the work does not have to be kept strictly up to date. He · adjust the amount of work he holds over from one day to the n Preparatory steps can be made ahead of the peak. Workers can shifted on peak days to spots where delay is most costly.

Slack days and other periods may well be devoted to training ployees on supplementary jobs. Frequently, a department head does nι begin to train an understudy until near the vacation period or until sudden illness leaves him without an experienced worker. He then the best he can under disadvantageous conditions. A slack time is to shift employees from one job to another.

The bringing up to date of old records, going over files, and ι· · monthly summaries for which there is no immediate demand are sυ of the jobs which can be arranged effectively for slack periods, in addi · ι to special jobs, such as preparation of tax returns, taking inventory and preparing forms and work sheets for the rush work which can ˙ ~ foreseen.

Many companies encourage employees to take vacations at times when work is normally slack. To prevent bunching of vacations at the most popular seasons, a little extra time may be granted for vacation at other times of the year when work is usually not heavy.

INTERDEPARTMENTAL COOPERATION

Interdepartmental cooperation is essential to a proper schedule for work which affects several departments. A schedule, once set up, should be adhered to as carefully as possible and reasons should be stated when it breaks down. One large tabulating department works for certain departments at definite hours during the month, but only if their work is ready; if it is delayed, they have to wait until their next turn on the schedule unless the tabulating department has time available after completing all the other work presented when due.

Quite frequently the progress of the routine is slowed up because department heads allow too much work to accumulate before sending it on. Much time would be saved if the work went from department to department in smaller batches. For instance, if a certain class of work is put through at two o'clock daily at the present time, a better general schedule might be worked out if one batch went through at ten o'clock, a second at twelve, and a third at three. In this way, much of the material might get to a third department on the same working day. The volume of the work concerned and the degree to which the work for the day interlocks are important factors.

Service between departments should be prompt and frequent enough to avoid transportation delays.

Communications between departments is no problem at the Chicago Sun-Times When Chief Mail Clerk Stanley Kapustka wants to rush an important telegram to City Editor Karin Walsh, he simply fires it into a bullet-like message carrier, dials the number of the editorial department directly on the carrier, and shoots it into a four-inch tube. Some thirty seconds later, the carrier bounces into the editorial department and Mr. Walsh has his telegram.

Such rapid intercommunication service is possible at the newspaper because of a fully automated pneumatic tube system, the first to be installed in a United States newspaper. Once a message carrier is popped into this vacuum system it can travel to any one of 26 stations at a speed of 25 miles an hour—without being touched by human hands until it is opened at a receiving station. This is because the system has a relay panel, or "brain," which automatically plays the role of traffic cop 24 hours a day.

"Chicago Sun-Times Sets the Pace with Automated Inter-Com System," *Management and Business Automation,* February 1959, page 26

In one old building the messenger service was hampered through slow

elevator service and lack of pneumatic tubes; the floors were small and many, and there was much communication between floors, frequently by walking up and down.   In such a situation the necessity for personal communication should have been cut to a minimum.   On account of the breakdown of the messenger service, visits from one department to another were extremely frequent.   There was also an excessive amount of walking about within the card record and posting department.   An investigator suggested that an actual record be made in this department of each trip which each worker made to other desks and of each visit which he received from people from other departments.   Each employee was provided with a dittoed sheet on which he entered the time of each trip, where to (or from), and the reason   The department of 32 employees reported 204 visits to and 261 visits from other departments in the course of 3 days.   Sometimes many cases were involved in one trip.   Interestingly enough, the mere fact that a record was being made materially reduced the trips after the first day, without any word from the department head.   Improvement continued for many weeks because the employees realized, through their recording, the amount of time and energy which was being wasted and because they knew the waste was being watched.   They therefore saved up several cases and made only one trip, or they wrote notes for the information needed

Usually some sections of a company do work which does not have to be finished at any given time.   The personnel engaged on such work can be loaned advantageously to other departments during peak seasons. There are also jobs which are done only once a year.   The usual practice is to place these just before or just after the close of the fiscal year.   Some of these could be done just as well during any slack month.

Rush jobs should be thought out ahead.   Ways can be developed for anticipating them as much as possible at slack times.   Whenever daily balancing is possible, month-end balancing is reduced to a minimum. Similarly, the carrying forward of figures from month to month will simplify work at the end of the business year.   A schedule should be prepared for statements and other work so that the less important ones are not prepared until the more important are finished.

When a department is closely linked to others in a chain of routines, you as the supervisor should see that those handling the work prior to yours make due allowance for your busy days, and you should give the same consideration to the department after yours.   Preventing your work from getting behind may be more important to the other person than it is to you.

When work gets far behind, the department may stay considerably overtime or may return in the evening to catch up.   Frequently this is done without warning persons in the succeeding departments, who are therefore taken unawares by the sudden inflow of work which they had

Controlling
and
Coordinating

If only half of one per cent of the time, effort, and money that have been spent on the direction of technological improvement were to be devoted to seeking better and improved methods of cooperation, the accomplishment would be tremendous

F J Roethlisberger, "The Foreman Master and Victim of Double Talk" *Harvard Business Review*, Spring 1945, page 298

CONTROLLING THE WORK

Even the best-planned methods of handling work will not run absolutely smoothly. Difficulties will develop from time to time, but if caught when they first arise, they may be corrected promptly with a minimum of loss in time, energy, and money.

To know whether the plans are being currently carried out and whether performance is equal to the expected, or better or worse, even careful observation is not enough. Appropriate records must be made and analyzed in order to supplement but not displace direct supervision, which alone can adequately feel out and recognize difficulties in human relations which may later be reflected in poorer performance.

Is the plan set lived up to? Is the volume what is expected, or more

or less? Is the trend, both immediate and long term, up or down? If the volume appears definitely on the increase, when will the staff need additions, or will some new plan enable you to handle the work with the same personnel? If the volume is declining, can any persons be released, or lent elsewhere, or should they be placed on special fill-in work? Is the volume of work handled with the rate of speed set? Are standards of quality, especially of accuracy, being met or surpassed? What is the trend of departmental cost? Over a period, does it show declining cost per unit of work and in relation to the company's total income? Is the department contributing its part to the company's progress?

The answers to questions such as these measure the progress you have made in living up to your plans and hopes. To obtain the facts, the appropriate records must be set up. Mere statistics showing past performance will not help you unless they are so related to the current situation as to give you a better grip on what you are doing. However, statistics can summarize facts in a form easily grasped. Verbal comment will aid in describing why the facts are so. The result, in figures, charts, and words, should give an up-to-date summary of how the work is moving. Usually monthly summaries suffice, but some matters must be watched weekly, and others daily.

You can't avoid an explosion by looking at your steam gage only once. You must watch the indicator and do something when it climbs to the danger zone. Just so, you must watch the flow of work in your department and take action before your boss explodes about errors or cost or delays or waste.

Records which aim definitely to mirror and guide performance are called "controls." They usually indicate the volume, speed, accuracy, and cost of the work, so as to show whether a given quantity of work is handled with a desired degree of accuracy in a reasonable time and with due economy, taking service into consideration. Since each situation is likely to differ from others, specific rules for devising controls are hard to give. The controls should normally show: (1) the volume handled, and the amount on hand, splitting up the figures of the different kinds of work if they vary in importance or difficulty; (2) the number of errors and the percentage of accuracy; (3) the speed with which the work is being completed, or the number and proportion of cases not being handled on schedule or being reworked; and (4) the cost of doing the work, considering often only the major items of easily measured costs. These data should be shown for the current period and in comparison to other periods or to a budget or standard, and should be accompanied by brief comments explaining any unusual items.

MONTHLY REPORT ON NEW BUSINESS ISSUED 1967

	This Month	Last Month	Year to Date This Year	Last Year

VOLUME

New policies mailed during period............

Changes mailed during period..................

Approved applications on hand end of period......

ACCURACY

Number of policies returned from field for correction

of errors..................................

Errors in records, etc., found by other departments..

SPEED OF ISSUE

Oldest case on hand at close of period..............

Speed from Applicant's Point of View

Working Days from Date First Papers Received Until Policy Released

Working Days	No. of Cases	This Month Per Cent	Last Month's Per Cent	Per Cent Year to Date This Year	Last Year
Same day					
One day					
2 days.............................					
3 days					
4 to 6 days........................					
7 to 9 days...					
10 to 12 days......................					
13 days or more....................					
Total...........................					

Speed of Issue in Department

Working Days from Date Last Papers Received Until Policy Issued

	This Month	Last Month	This Year	Last Year
Number of policies issued on same working day........				
Per cent issued on same working day...............				
Number issued with 1 day's wait..................				
Per cent issued with 0 or 1 day's wait...............				

COST

Total number of clerks in department............

Policies issued per clerk.........................

Total salary cost of department..... ....
   Less credit for time lent other departments........
   Plus charge for time borrowed from other departments
   Net salary cost............... ....
   Net salary cost per policy issued...................................
   Average salary per clerk regularly in department....

REMARKS
   Credit is taken only for time actually lent to other departments. Reported unused free time available to other departments amounted to ......clerical days valued at Rs........
   Unusual conditions during the month were:

Figure 6. A Typical Monthly Control Report in a Large Insurance Company.

The type of report which the supervisor presents to his superiors will generally be set by them. However, if he thinks the report neglects important aspects of the situation, his superiors may be glad to have him suggest improvements. Their point of view will differ from his since they will be interested less in departmental details than in the effect upon the organization as a whole.

Usually the supervisor can decide for himself what type of records to keep for his own use. In general, he should combine the reports from individual workers and from the smaller groups into a report for the department as a whole. A daily work report, such as the one shown in Figure 4, is a convenient basis for much of the information needed for control reports.

Figure 6 illustrates the monthly control that the authors suggested for the policy issue department of a large insurance company. Comparisons are made to the preceding month on the monthly basis and to the preceding year on the year-to-date basis. If there is normally a wide variation between the various months, comparisons to the same month of the previous year might be substituted for the comparison to the preceding month. A quota, a budget figure, or a standard performance, if worked out for a department, should be shown along with the actual accomplishment. Otherwise, a figure for the average volume may be given.

Accuracy is reported only insofar as the errors affect persons outside the department. Errors made and caught within the department are not considered in this report. Sometimes it is well to consider in a depart-

mental report the errors made in one division of the department and caught in another, as this will reflect the accuracy of the department as a whole; but such errors should not be grouped with the ones which leave the department, because the latter are usually of more consequence.

Speed of handling the work is treated in three ways in the report. First, the oldest case in the department is recorded to show whether any cases are taking an excessive time. (It might be desirable to show the dates of the ten oldest cases or the number of cases held more than a certain time. The causes of the delays may also be shown.) The next speed analysis is from the point of view of the applicant. This will be affected by how well the agent filled out the application blank, by how many requests for special information the underwriting department sends out, and by other factors which will be quite beyond the control of the issue department. However, the company will be judged partly by the speed with which it gets its policies into the hands of the applicant. To the head of the issue department this record has less importance than the third analysis which shows the speed with which the cases are handled in his department once all the data are received.

The cost figure includes only clerical salaries, with adjustments for clerical time borrowed from other departments or actually lent to them. The net salary cost per policy issued is taken as a workable measure of efficiency from the point of view of cost. Next to it is shown the average salary per clerk. If this tends upward while the cost per policy issued tends downward, the situation is very satisfactory and indicates good management.

Under "Remarks" is provided space for recording the excess clerical time available to other departments but not used by them. This presupposes an arrangement for shifting. A consistently large figure for time lent or available for lending indicates that a permanent reduction of staff in the department might be desirable and that the situation should be reviewed.

Controls, similar to the one shown in Figure 6, may be prepared for a wide variety of departments. The work of the individual department must be considered, and the items recorded should be chosen with the particular situation in mind. The items appropriate for several departments are given in Figure 7.

It should be noticed that more than one measure of cost is provided for each of the departments in Figure 7. The purpose is to show the cost in relation to the work done by the department and in relation to the work or the income of the company as a whole. If a department which tries to collect overdue accounts by the use of a series of follow-up letters is rated solely upon the cost per letter, the figure may reflect

Department	Volume	Accuracy or Quality	Speed	Cost
Purchasing and supply department	Total expenditures Number of requisitions for supplies Number of salesmen interviewed	Number of errors found by other departments	Oldest unfilled requisition	Per rupee spent Per rupee of company's total income Per account
Filing	Approximate number of pieces returned to files (obtained by measuring requisitions on returned cases)	Number of errors found by other departments Ratio of errors in file in 500 cases tested	Number of complaints regarding delay	Per account Per rupee of company's income
Messenger	Weight of incoming and outgoing mail	Number of complaints of misdelivery	Per cent of messenger trips completed on schedule	Per account Per rupee of company's income
Addressograph	Number of impressions made Number of new plates Number of plates changed	Number of errors found by other departments	Number of jobs completed on schedule Number of jobs completed late	Per impression Per account Per rupee of company's income
Agency department of a life insurance company	Number of agents producing paid-for business Amount of new premium income Increase of business in force Miles traveled in agency supervision	Number of errors found by other departments Proportion of business paying premiums for two full years	Percentage of contracts completed within two days after receipt of papers Oldest incomplete contract papers	Per agent producing Per rupee of new premium income

Figure 7. Items on Typical Department Control Reports

how efficiently it is sending out the letters, but it will not tell the results in collections received. The cost should be related to the number of accounts becoming overdue and also to the total number of accounts of the company. If the latter figures are secured, the supervisor can see not only his immediate operating efficiency but also the results secured by the letters. He should know the degree to which he is successful in overcoming the tendency of customers who are once in arrears to fall into arrears again. If he devises a method of holding down the number of overdue accounts coming to his department, he should have a measure of its results.

There is danger that a person who becomes interested in controls will carry them too far and set up machinery for giving too many and too detailed figures. On the other hand, useful figures can often be obtained by a little planning and a slight additional amount of work. Often we find that individual records or daily records are destroyed without being combined into totals for the department or for the month. To get the additional figures which would enable one to have a basis for measuring future progress would frequently take one clerk only five or ten minutes per day. The time required to get the figures should be weighed against the use to be expected from them and from the records upon which they would be based. The value of the figures tends to increase with time, for trends become more evident, and more useful comparisons can be made.

Charts which can be brought up to date periodically are often well worth keeping for the clear way in which they show trends and changes. Once they have been set up, they require only a few minutes' work each period. The ordinary chart, with the dates along the bottom and the amounts up the side, is often sufficient. Charts on semilogarithmic paper (ratio charts) are useful in comparing trends in two or more items which fluctuate considerably and which are of quite different size.

If a performance budget has been set, the Gantt chart is an excellent visual means of control. The horizontal spaces of the chart show the steps to be taken, the vertical columns indicate dates. Light horizontal lines are drawn between columns to show the planned time for the performance of each step. As work progresses, solid lines are put under the light ones to give the progress to date.

A simple adaptation of the Gantt chart is useful in a stenographic or other department where work arrives in irregular volume and must be distributed among a number of clerks. Any sheet of ruled paper may be used. Down the left side are put the names of the clerks in the department. Following the column of names are a number of rulings, an inch apart, providing a column for each hour from the time the office opens until

it closes, plus a column for overtime. Each of the spaces opposite a clerk's name may be subdivided into four parts, by light vertical lines so that there will be a space for each quarter of an hour. When work is assigned to a clerk, a horizontal line is drawn opposite his name through the spaces corresponding to the time during which it is estimated that the work will keep him busy. For stenographers, the number of pages of notes to be transcribed is multiplied by an average time per page, and allowance is made for any special factors. (The average speed of each stenographer will have to be determined by experiment, since not only is there a variation in the speed of transcription, but also the size of the handwriting will make the amount which the different clerks put on their notebook pages vary greatly.)

If the supervisor gets a request at, say, three o'clock, for some stenographic service, he can glance at the chart and tell about how soon each stenographer is likely to be free for more work. If he has put a symbol on the lines opposite the clerks' names he will be able to tell at a glance the type of work which each is doing. He can then see which one could most conveniently be interrupted.

COSTS

In practically all organizations, pay is a most important item of operating cost, and the largest item which can be affected appreciably by good or poor supervision. The number of persons employed in a department will usually bear a close relationship to the costs for raw materials, tools, equipment, light, space, and so forth. A reduction in staff will normally bring about a reduction in some or all of these costs. To measure exactly what they are for each department is likely to require too much detailed work to justify securing them. For most purposes of control, figures of salary costs will be adequate. This does not mean that attention should be paid to reducing average pay. The authors believe that high average pay per employee enable organizations to get, to hold, and to develop persons who operate with lower unit costs than would be obtained from a staff less well paid individually. However, a company normally cannot pay higher than average wages in a competitive business unless it has greater than average productivity resulting from better management, better individual work, or both.

The control of costs for minor items is not of much importance in comparison to salary control, but the total amounts spent for these items are so large in rupees that often it is worthwhile to pay some attention to their effective use and to the prevention of waste. For instance, in clerical jobs do some of your clerks throw paper clips in the scrap

baskets? Do they hold an oversupply of forms in their desks, many of which become obsolete and are never used? Have you ever examined the contents of some of the scrap baskets to see whether part of what is being discarded would be worth saving?

Office machines constitute a cost factor of increasing importance. Where the proportion .of costs for machines is high, naturally they must be taken into account in cost controls.

In other situations, costs for travel, telephone, or other items may be significant.

STANDARD COSTS AND BUDGETING

Standard costs and budgeting are terms which have received a good deal of attention in management literature. A standard cost is the figure which has been determined as reasonable to pay for a definite unit of work when operating at normal volume. A budget is a definite plan for the coordination of the various activities of the company.

The main use of standard cost figures is to keep actual costs down to the level determined to be reasonable. Since many companies can reduce their costs from the present level by methods such as those described in this book, standard costs for clerical work are unnecessary in many companies today. Their determination on a scientific basis involves much careful study of actual operations and a good deal of thought and discussion concerning the assumptions to be made in arriving at the standard figures. Consideration of practical ways of cutting down costs seems to offer most clerical organizations a greater chance of immediate savings and should make the ultimate determination of standard costs easier. On the other hand, in manufacturing plants, standard cost figures offer an important tool for controlling costs and should be used.

A budget should be flexible, that is, it should be subject to change and actually should be changed as conditions are found to vary materially from the assumptions upon which the tentative budget was set. It should not be regarded as a governmental budget, which is mainly a set of limits beyond which expenditures will not be allowed. The type of budget needed by a business organization may be compared to the plans made by the captain of a ship in stormy weather for getting his ship safely into a port where he has had little experience. He will study available charts of the port; he will attempt to calculate how the tide currents are likely to be running at the time he expects to be able to reach certain ports; he will estimate how the wind and the waves are likely to affect his course; and he will make plans for securing the safety

of his ship if his calculations prove wrong, owing to actual conditions different from those assumed as most probable.

A partial budget may be for expenses alone. It may give a cost per unit of work, or it may limit the total expense for each department. In either case, actual costs should be regularly compared to budgeted costs. For some aspects of executive control the budget may show the total costs of different functions of the organization, with costs allotted to particular functions from one or more departments.

A budget may cover a wider range, for instance, a carefully established goal for sales, production, collections, and so forth. Each department may thus enter into one or more aspects of the total company budget. This type of planning cannot be done by the individual supervisor except in rare instances where he has control over a particular section of the work.

COORDINATION

"Coordination is the orderly arrangement of group effort, to provide unity of action in the pursuit of a common purpose" (James D. Mooney and Alan C. Reiley, *Principles of Organization,* Harper and Brothers, 1939; page 5.) The larger an organization grows the more important becomes the task of coordinating the work of different individuals and groups, of various activities and specialities. The greater the complexity and the more activities are specialized and subdivided, the more necessary is coordination. Although coordination is especially the job of top and middle management because they determine structural and functional relationships, the supervisor has a part to play too. He deals with direct work relationships, he knows the errors, the delays, and the confusions which may arise among different sections of the organization. He can often take intelligent action to clear these up by direct dealing with his colleagues. Even more, he can help by a clear understanding not only of the need for coordination but also of the necessity of taking a broad view. The supervisor can reach out in understanding to grasp the activity as a whole, to see the "woods" as well as the "trees." When he takes an overall view he will be readier to cooperate in undertakings common to several departments.

The supervisor also can attempt to organize the groups under him in the best possible way. He must therefore pay attention to the way the work interlocks, to the best use of particularly good individuals, and to his personal relations with his staff.

The number of persons which one individual can effectively supervise directly depends on the nature of the work and of the people. An officer

may indirectly supervise thousands of persons, and he may come into personal contact with dozens, but he can supervise directly only a small number, perhaps five to ten. An operating supervisor can handle a number of subordinates, varying according to his personal characteristics, the quality and character of the work, and the type of employee. If a section comprises a number of highly individual technical tasks which must be coordinated, relatively small groups are best.

The complexity of relationships increases rapidly with each additional person supervised. Mr. Nath supervises Ram and Gopal. He therefore considers his relations with each separately and with the two of them together. There are three relationships which will be thus affected by his various actions. If Madhav is added to the group, Mr. Nath must consider not only relations with Madhav but also how they complicate his relationships with Ram and Gopal and how the relations of Ram, Gopal, and Madhav among themselves affect the work. It has been shown that the number of relationships is about doubled every time a person is added to an interrelated group. The addition of one person to a staff of five increases the human resources by 20 per cent but doubles the human complications. Mr. Nath must consider how any action which he may take with any one of his staff will be viewed by each of the others. He cannot give Ram privileges without either giving them to Gopal or explaining why Ram gets special treatment. He may think that he can show Ram the reasonableness of the situation, but then he must consider that Madhav has a way of influencing Ram to see things as badly as possible; so his proposed action with Ram must be considered in its relation to Gopal and Madhav as a group. If the possible influence which each worker has on every other and which different groups may have on the various workers is considered, it is clear that Mr. Nath has a large job in order to achieve a coordination of work and of temperaments which will produce the most effective teamwork.

Supervisors can add to their effectiveness by seeking to lighten the load of their superiors. They should not be pushing, but they should study how they can shoulder more effectively the responsibilities already entrusted to them. Particularly, they should seek to broaden their own point of view so that they will handle their departments in proper relation to the company as a whole. Many of the officers in large corporations today grew up in small organizations and had a type of experience which young men in large corporations seldom get today. The supervisors must cultivate for themselves that breadth of experience which came almost without effort in the earlier days of small, closely knit organizations.

The problems of large-scale organization are relatively new, and the

human relations involved are still in the making. Many contributions toward an organic harmony can be made by the supervisor who is intelligent, conscientious, and cooperative. He should study his job. He should master the technique of the work for which he is responsible. Often he should plan its proper performance. He should be sensitive to the human values involved. Not only should he have a knowledge of the principles to be applied and an inner disposition to cooperate with others, but also he should cultivate the outward acts which reveal these emotional and intellectual reactions. To his superiors he should be helpful and tactful; to his colleagues, cooperative; and to his subordinates he should show himself a leader who can effectively captain his team.

Supervision is indeed a difficult job. You have to practice good human relations and works management at the same time. Supervision requires you to bear in mind not only the needs of the work but also the emotional and mental conditions which enable each individual worker to turn out that work in acceptable quality and quantity at the time required. Moreover, year by year things seem to get more complicated—more policies, instructions, and specifications; higher quality, more refinements; greater speed; more complexities in hiring, training, rating, paying, transferring, promoting, motivating, and firing employees, increasing stress with more worry, and more emphasis on the values of the group. More about the dignity of the individual. More about treating everybody the same; and more, much more, about the need to regard each person as unique and entitled to individual consideration.

And for you personally, you need to study more about systems and procedures and the larger forces like automation, unionization, monotony, specialization, education, and leisure which have an impact on your job. On the other hand, you are urged to enter wholeheartedly into your relationships with people, to be warm, friendly, tactful, and fair. Finally you are told that you should find time to think and to plan and to evaluate what your boss needs from you and how those under you are doing.

All these things are desirable. You have to make some selection from all these activities and develop from there.

Conclusion

Supervision is, therefore, always an adaptive process A leader, to be effective, must always adapt his behavior to fit the expectations, values and interpersonal skills of those with whom he is interacting. This applies to all his relationships with other persons· his superiors, his peers, and his subordinates As a consequence, there can be no specific rules of supervision which can be expected to work well in all situations Broad principles can be applied to the processes of supervision and furnish valuable guides to behavior.

Rensis Likert, "Effective Supervision An Adaptive and Relative Process", *Personnel Psychology*, Autumn 1958, page 327

Business today and tomorrow does not need managers who have learned the right answers The need is rather for managers who are always learning —from their jobs, from their associates, from courses, and from books— and who are ever questioning the past, evaluating the present, and planning for the future.

"Making the Most of Training Opportunities". *Management Bulletin* 73, American Management Association. New York. 1965, page 31.

You cannot do everything at once and do it well. However, if you begin on a few essentials you can gradually extend your efforts until you have covered the field. The first person you have to supervise is you. You must adjust to your situation as best you can, using the resources of people and books.

Good intentions and hard work are not enough; in fact, they may not even win you the trust of your own staff. In your relations with people you need to pay attention to the human side, observe the results you get,

revise your goals and methods, and improve your performance. In dealing with the work, you need to form the habit of thinking things through, with the help of others as obtained by study and discussion. In the science and art of management there are good practices in handling both persons and work. We have tried to set those forth. But remember to be guided, not bound, by what others say and do. You have to work your own way through your problems with imagination, faith, intelligence, and cooperation with others.

Bibliography

_ Selected references are given for the use of those who wish to read
further on some of the topics dealt with in this book. Unless otherwise
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reading

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D. SPECIAL SUBJECTS

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E. PERIODICALS AND PUBLICATIONS OF SOCIETIES

A number of good periodicals and other publications are issued by various societies We include only those which deal to an important extent with problems of supervision and management

American Management Association, 135 West 50th Street, New York, 10020, publishes monthly *The Management Review* covering abstracts and reviews of books and articles in the general field of management; bimonthly *Personnel* presenting articles in this field; monthly *Supervisory Management* giving articles of direct interest to supervisors; and pamphlets and books on management subjects. The association conducts courses, seminars, and conferences on personnel and other management subjects and maintains a library and a research staff. It has both corporate and individual members.

Society for Advancement of Management, 16 West 40th Street, New York, 10018, publishes a monthly journal, *Advanced Management,* in which appear authoritative papers on management and its application to specific fields. The national society and about sixty chapters and many university chapters hold stimulating meetings and conferences It has both corporate and individual members.

The Administrative Management Society (formerly the National Office Management Association, Willow Grove, Pennsylvania, 19090, publishes a journal, *Administrative Management Quarterly,* bulletins, and annual proceedings. The articles give suggestions on administrative problems. Membership is individual. Chapters have been organized in numerous American cities

The American Institute of Industrial Engineering, 345 East 47th Street, New York, 10017, deals with management problems from the view point of industrial engineering

Life Office Management Association, 757 Third Avenue, New York, 10017, publishes proceedings of its meetings and various reports These are specific to life insurance, but some of the comments on office routine and practice are applicable to other lines. Membership is restricted to life insurance companies.

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